... eine starke Verbindung

# ДЕКЛАРАЦИЯ ЗА ЕКСПЛОАТАЦИОННИ ПОКАЗАТЕЛИ

DoP **№ MKT-1.5-201**_bg

- **Уникален идентификационен код на типа продукт:** **Пирон за таван DN**
- **Предвидена употреба/употреби:** Дюбели за анкериране в бетон за излишни неносещи системи, виж приложение Б /Annex B
- **Производител:** MKT Metall-Kunststoff-Technik GmbH & Co.KG
  Auf dem Immel 2
  67685 Weilerbach

**Система/системи за оценяване и проверка на постоянството на експлоатационните показатели:** 2+

- **Европейски документ за оценяване:** **EAD 330747-00-0601**
  Европейска техническа оценка: **ETA-23/0246, 04.07.2023**
  Орган за техническа оценка: DIBt, Berlin
  отифициран орган/органи: NB 2873 – Technische Universität Darmstadt
- **Декларирани експлоатационни показатели:**

| Съществени характеристики | Експлоатационни показатели |
|---|---|
| **Безопасност в случай на пожар (BWR 2)** | |
| на поведение при пожар | клас A1 |
| пожароустойчивост | Приложение / Annex C1 |
| **Безопасност по време на употреба (BWR 4)** | |
| Характерно съпротивление за всички посоки на натоварване и всички режими на повреда за опростения метод на проектиране | Приложение / Annex C1 |
| трайност | Приложение / Annex B1 |

експлоатационните показатели на продукта, посочени по-горе, са в съответствие с декларираните експлоатационни показатели. Настоящата декларация за експлоатационни показатели се издава в съответствие с Регламент (ЕС) № 305/2011, като отговорността за нея се носи изцяло от посочения по-горе производител.

Подписано за и от името на производителя от:

**Stefan Weustenhagen**
(Управител)
**Weilerbach, 26.01.2026**

p.p.
**Dipl.-Ing. Detlef Bigalke**
(Продуктов мениджър)

Оригиналът на тази декларация за изпълнение е на немски език. В случай на отклонения в превода, немската версия е валидна.

Deutsches Institut für Bautechnik

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

# European Technical Assessment ETA-23/0246 of 4 July 2023

English translation prepared by DIBt - Original version in German language

**General Part**

| | |
|---|---|
| Technical Assessment Body issuing the European Technical Assessment: | Deutsches Institut für Bautechnik |
| Trade name of the construction product | Ceiling Anchor DN |
| Product family to which the construction product belongs | Fasteners for use in concrete for redundant non-structural systems |
| Manufacturer | MKT<br>Metall-Kunststoff-Technik GmbH & Co. KG<br>Auf dem Immel 2<br>67685 Weilerbach<br>DEUTSCHLAND |
| Manufacturing plant | Werk 6/7 |
| This European Technical Assessment contains | 10 pages including 3 annexes which form an integral part of this assessment |
| This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of | EAD 330747-00-0601, Edition 06/2018 |

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## Specific Part

### 1 Technical description of the product

The Ceiling Anchor DN of size 6x40 and 6x70 is an anchor made of galvanized steel which is placed into a drilled hole and anchored by deformation-controlled expansion.

Product and product description is given in Annex A.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Safety in case of fire (BWR 2)

| Essential characteristic | Performance |
|---|---|
| Reaction to fire | Class A1 |
| Resistance to fire | See Annex C1 |

#### 3.2 Safety in use (BWR 4)

| Essential characteristic | Performance |
|---|---|
| Characteristic resistance for all load directions and modes of failure for simplified design | See Annex C1 |
| Durability | See Annex B1 |

### 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with European Assessment Document EAD No. 330747-00-0601, the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

## 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 4 July 2023 by Deutsches Institut für Bautechnik

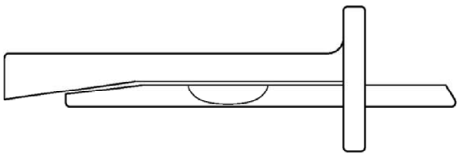
Dipl.-Ing. Beatrix Wittstock
Head of Section

*beglaubigt:*
Tempel

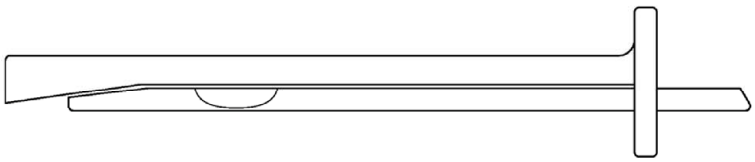
Deutsches Institut für Bautechnik DIBt

## Ceiling Anchor DN

### Ceiling Anchor DN 6x40

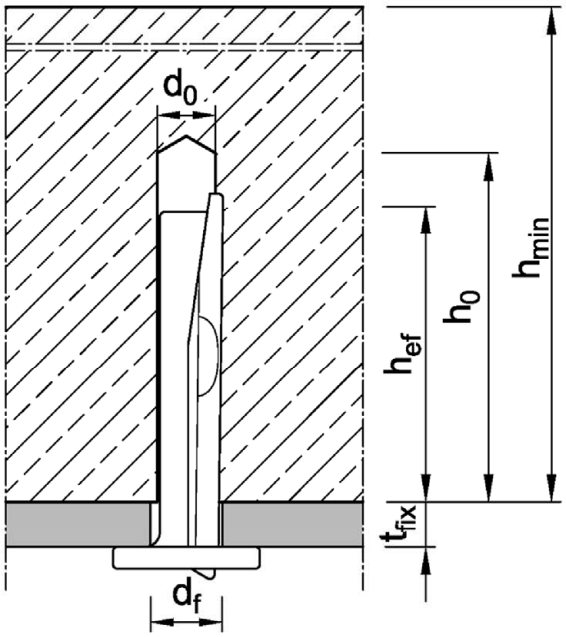


### Ceiling Anchor DN 6x70

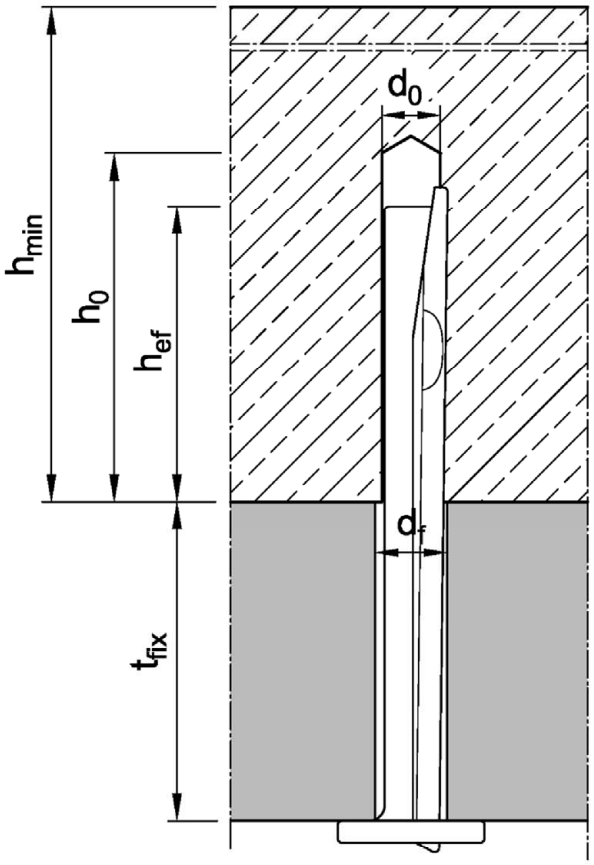


## Installation condition

**DN 6x40**



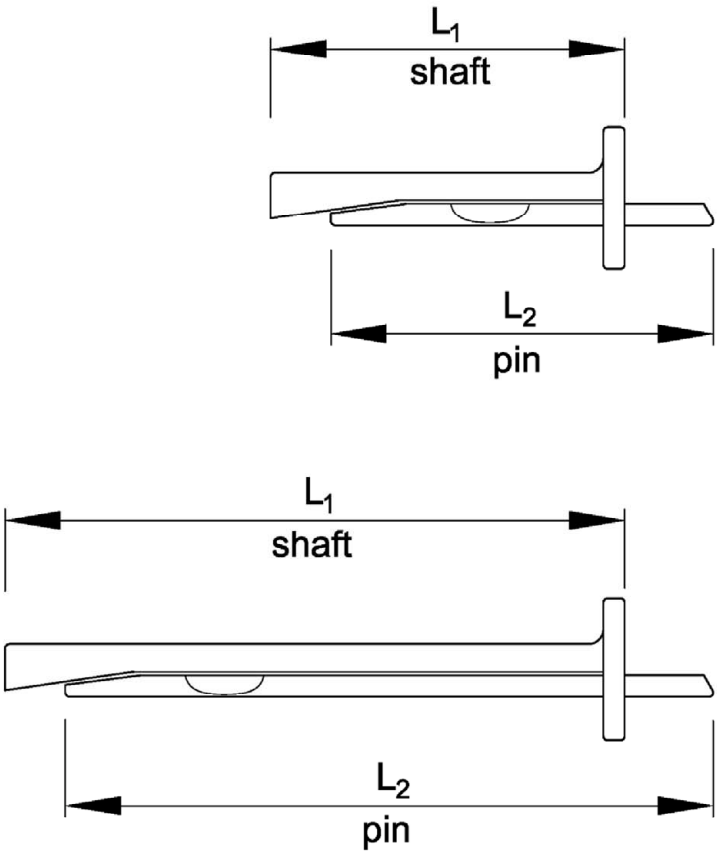

**DN 6x70**




$d_0$ = nominal drill hole diameter
$h_{ef}$ = effective anchorage depth
$h_0$ = depth of drill hole
$h_{min}$ = minimum thickness of member
$t_{fix}$ = thickness of fixture
$d_f$ = diameter of clearance hole in the fixture

| Ceiling Anchor DN | Annex A1 |
|---|---|
| **Product description**<br>Product and installation condition | |

## Marking



Marking:
e.g.: ◇ DN 6x40 or ◇ DN 6x70

◇ Identifying mark of manufacturing plant
DN Fastener idendity

## Table A1: Dimensions

| Ceiling Anchor size | | | DN 6x40 | DN 6x70 |
|---|---|---|---|---|
| Length of shaft | L1 | [mm] | 40 | 70 |
| Length of pin | L2 | [mm] | 43 | 73 |

## Table A2: Materials

| Part | Designation | Material |
|---|---|---|
| **1** | Shaft | Steel, galvanized ≥ 5 µm |
| **2** | Pin | Steel, galvanized ≥ 5 µm |

| **Ceiling Anchor DN** | **Annex A2** |
|---|---|
| **Product description**<br>Marking, Dimension, Materials | |

## Specifications of intended use

| Ceiling Anchor | DN 6x40 | DN 6x70 |
|---|---|---|
| **Use only for redundant non-structural systems acc. to EN 1992-4:2018** | | |
| Static and quasi-static actions | ✓ | |
| Fire exposure | R30 to R120 | |
| Base materials | compacted, reinforced or unreinforced normal weight concrete without fibres acc. to EN 206:2013 + A1:2016 | |
| Strength classes | C20/25 to C50/60 acc. to EN 206:2013 + A1:2016 | |
| Cracked and uncracked concrete | ✔ | |

**Use conditions (Environmental conditions):**

- Structures subject to dry internal conditions

**Design:**

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.)
- Anchorages are designed according to EN 1992-4:2018, Annex G, Method C

**Installation:**

- Hole drilling by hammer drill bit or hollow drill bit
- Anchor installation carried out by appropriately qualified personal and under supervision of the person responsible for technical matters of the site
- Positioning of the drill holes without damaging the reinforcement
- Overhead installation is permitted

| Ceiling Anchor DN | Annex B1 |
|---|---|
| **Intended use**<br>Specifications | |

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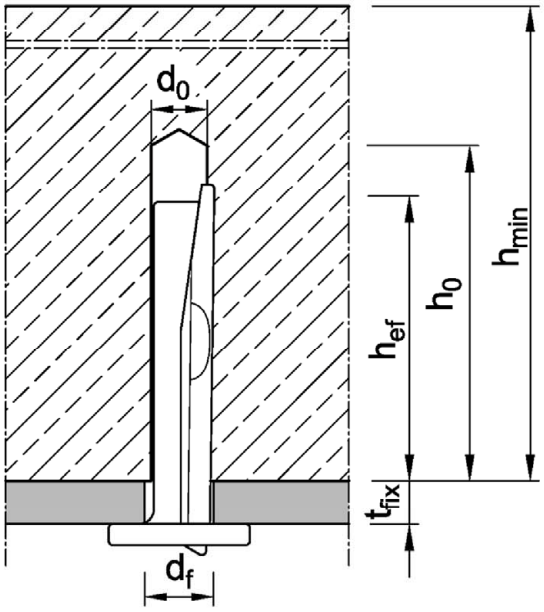
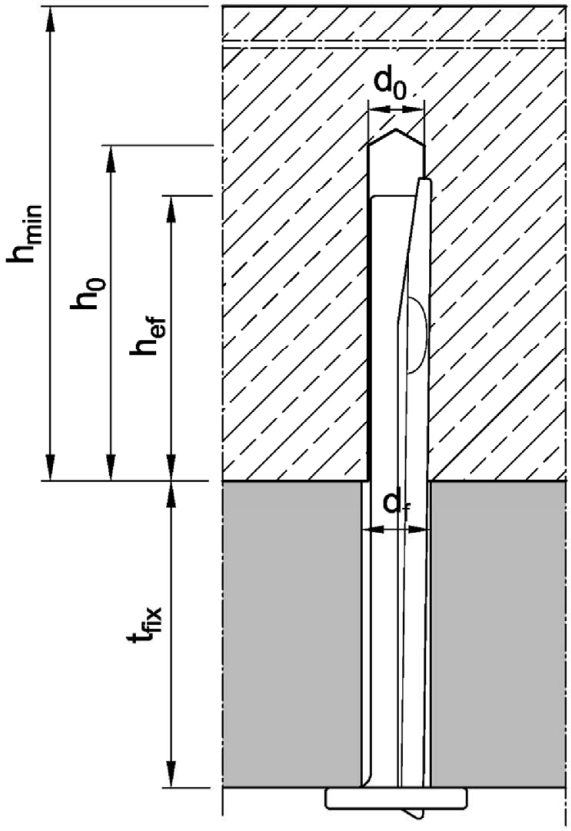
## Table B1: Installation parameters

| Ceiling Anchor | | | DN 6x40 | DN 6x70 |
|---|---|---|---|---|
| Nominal drill hole diameter | $d_0$ | [mm] | 6,0 | |
| Cutting diameter of drill bit | $d_{cut} \leq$ | [mm] | 6,4 | |
| Depth of drill hole | $h_0 \geq$ | [mm] | 40 | |
| Effective anchorage depth | $h_{ef} \geq$ | [mm] | 32 | |
| Diameter of clearance hole in the fixture | $d_f \leq$ | [mm] | 7 | |
| Thickness of fixture | $t_{fix} \leq$ | [mm] | 5 | 35 |
| Minimum thickness of member | $h_{min}$ | [mm] | 80 | |
| Minimum edge distance | $c_{min}$ | [mm] | 150 | |
| Minimum spacing | $s_{min}$ | [mm] | 200 | |

**DN 6x40**




**DN 6x70**




**Ceiling Anchor DN**

**Intended use**
Installation parameters

**Annex B2**

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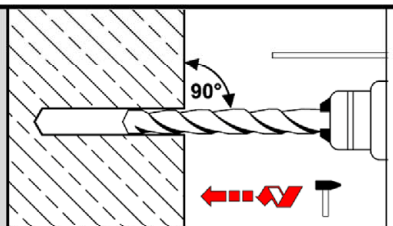
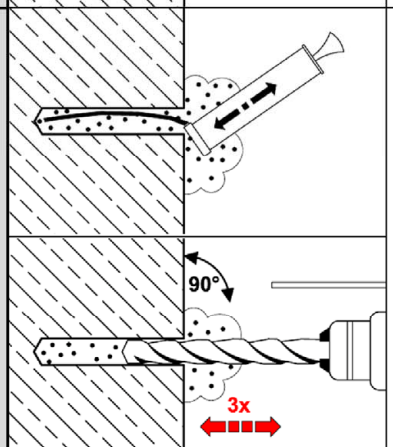
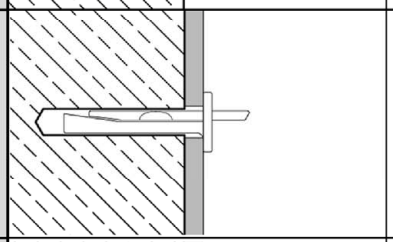
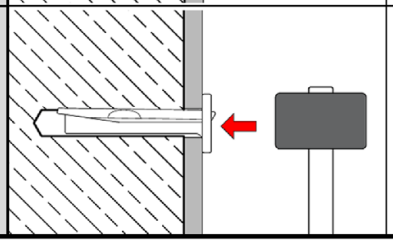
## Installation instructions

| | | |
|---|---|---|
| 1 |  | Drill hole perpendicular to concrete surface. |
| 2 |  | Blow out dust. Alternatively, vacuum clean down to the bottom of the hole.<br><br>**or**<br><br>When reaching the drill hole depth pull out the drill bit whilst power drill is switched on. To reduce the drill dust in the drill hole repeat this step minimum three times, starting from the bottom of the borehole (discharging the drill hole). |
| 3 |  | Insert Ceiling Anchor up to attachment contact. |
| 4 |  | Drive in the protruding pin. |

| | |
|---|---|
| **Ceiling Anchor DN** | **Annex B3** |
| **Intended use**<br>Installation instructions | |

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## Table C1: Characteristic values for all load directions and failure modes

| Ceiling Anchor | | | DN 6x40 | DN 6x70 |
|---|---|---|---|---|
| Installation factor | $\gamma_{inst}$ | [-] | 1,0 | |
| **All load directions and for all failures** | | | | |
| Characteristic resistance in cracked and uncracked concrete C20/25 to C50/60 | $F_{Rk}$ | [kN] | 5,0 | |
| Partial factor[1)] | $\gamma_M$ | [-] | 1,5 | |
| Minimum edge distance | $c_{cr} = c_{min}$ | [mm] | 150 | |
| Minimum spacing | $s_{cr} = s_{min}$ | [mm] | 200 | |
| **Steel failure with lever arm** | | | | |
| Characteristic bending resistance | $M^0_{Rk,s}$ | [Nm] | 5,1 | |
| Partial factor[1)] | $\gamma_{Ms}$ | [-] | 1,25 | |

1) In absence of other national regulations

## Table C2: Characteristic values under fire exposure

| Ceiling Anchor | | | | | DN 6x40 | DN 6x70 |
|---|---|---|---|---|---|---|
| **all load directions** | | | | | | |
| **Fire resistance class** | R30 | Characteristic resistance | $F_{Rk,fi}$ | [kN] | 0,74 | |
| | R60 | | $F_{Rk,fi}$ | [kN] | 0,61 | |
| | R90 | | $F_{Rk,fi}$ | [kN] | 0,49 | |
| | R120 | | $F_{Rk,fi}$ | [kN] | 0,42 | |
| **Steel failure with lever arm** | | | | | | |
| **Fire resistance class** | R30 | Characteristic bending resistance | $M^0_{Rk,s,fi}$ | [Nm] | 0,39 | |
| | R60 | | $M^0_{Rk,s,fi}$ | [Nm] | 0,33 | |
| | R90 | | $M^0_{Rk,s,fi}$ | [Nm] | 0,26 | |
| | R120 | | $M^0_{Rk,s,fi}$ | [Nm] | 0,23 | |
| **Edge distance and spacing, partial factor** | | | | | | |
| **Fire resistance class** | R30 to R120 | Partial factor | $\gamma_{M,fi}$ | [-] | 1,0 | |
| | | Spacing | $s_{cr,fi}$ | [mm] | 200 | |
| | | Edge distance | $c_{cr,fi}$ | [mm] | 150 | |
| | | | For fire exposure from more than one side c ≥ 300mm. | | | |

**Ceiling Anchor DN**

**Performance**
Characteristic resistance

**Annex C1**