# X-HS DKH
# DATA SHEET

## Suspended ceiling fastener

## DX Kwik technique

November 2024

# X-HS DKH Threaded rod hangers (DX Kwik technique)

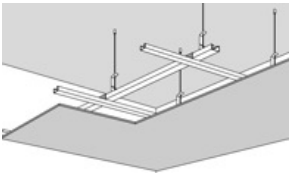
## Product info

### Product description

| Designation | Features |
|---|---|
| X-HS DKH<br>  | • Enhanced load capacity due to deep embedment<br>• Suitable for use on hard or tough concrete, e.g. renovation jobs on older concrete.<br>• With the DX Kwik technique – fastenings are driven into a small pre-drilled hole, increasing the stick rate to almost 100% while protecting the base material from spalling.<br>• Peace of mind – European Technical Assessment (ETA) approved system for suspended ceilings.<br>• Suitable for threaded rod ceiling hangers. |

## Application conditions

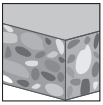
### Applications



Suspended ceiling

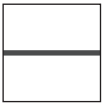
Suspended ceiling
Hanger type: Threaded rod

### Base materials



Concrete

### Load conditions



Static / quasi static

### Environmental conditions

Dry indoor

## Approvals

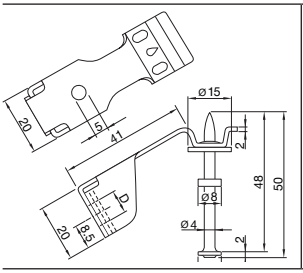
### Approvals and certificates

| Authority | Approval/certificate | Date of issue |
|---|---|---|
| Deutsches Institut für Bautechnik (DIBt) | ETA-22/0587 | 24/07/2023 |
| Document Technique d'Application (DTA) | 3.1/24-1087_V1 | 18/09/2024 |

- Not all information presented in this product data sheet might be subject to approval/certificate content. Please refer to approval/certificate for further information.

## Product info

### Dimensions




X-HS M6 DKH 48 P8S15
X-HS M8 DKH 48 P8S15
X-HS M10 DKH 48 P8S15

## Material specification and material properties

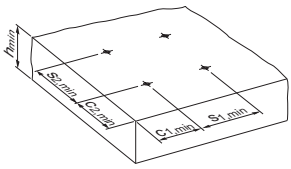
| Designation | Element | Material | Standard |
|---|---|---|---|
| X-HS M6, X-HS M8, X-HS M10 | Ceiling hanger | DX 51D+ZA130 | EN 10346 |

| Designation | Element | Material | Coating | Minimum coating thickness $t_c$ [µm] | Hardness [HRC] |
|---|---|---|---|---|---|
| X-DKH 48 P8S15 | Nail | Carbon steel | Zinc | 5 | 58 |

| Element | Material | Standard | Coating | Minimum coating thickness $t_c$ [µm] | Diameter [mm] |
|---|---|---|---|---|---|
| Steel washer | DC 01 C390 | EN 10139 | Zinc | 10 | 15 |
| Plastic washer | Propylene | – | – | – | 8 |

## Application requirements

### Base material properties and fastener positioning in base material




| Base material | Concrete |
|---|---|
| Concrete class | C20/25 – C50/60 |
| Base material thickness $h_{min}$ [mm] | 100 |
| Edge distance $c_{1,min}$, $c_{2,min}$ [mm] | 150 |
| Spacing $s_{1,min}$, $s_{2,min}$ [mm] | 100 |

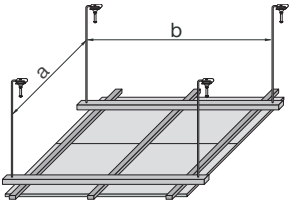
## Performance data

### Single point loads

| Designation | Hanger type | Characteristic resistance under tension load $N_{Rk}$ [kN] | Recommended tension load $N_{rec}$ [kN] |
|---|---|---|---|
| X-HS M6 DKH 18 P8S15 | Threaded rod: M6 | 1.8 | 0.86 |
| X-HS M8 DKH 18 P8S15 | Threaded rod: M8 | 1.8 | 0.86 |
| X-HS M10 DKH 18 P8S15 | Threaded rod: M10 | 1.8 | 0.86 |

### System loads

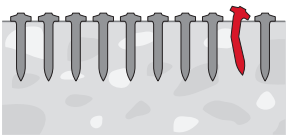
Maximum allowable ceiling weight [kN/m²]




| Carrying channel/ spacing a [mm] | Hanger spacing b [mm] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **500** | **600** | **700** | **800** | **900** | **1000** | **1100** | **1200** |
| **500** | 1.60 | 1.33 | 1.14 | 1.00 | 0.88 | 0.80 | 0.72 | 0.66 |
| **600** | 1.33 | 1.11 | 0.95 | 0.83 | 0.74 | 0.66 | 0.60 | 0.55 |
| **700** | 1.14 | 0.95 | 0.81 | 0.71 | 0.63 | 0.57 | 0.51 | 0.47 |
| **800** | 1.00 | 0.83 | 0.71 | 0.62 | 0.55 | 0.50 | 0.45 | 0.41 |
| **900** | 0.88 | 0.74 | 0.63 | 0.55 | 0.49 | 0.44 | 0.40 | 0.37 |
| **1000** | 0.80 | 0.66 | 0.57 | 0.50 | 0.44 | 0.40 | 0.36 | 0.33 |
| **1100** | 0.72 | 0.60 | 0.51 | 0.45 | 0.40 | 0.36 | 0.33 | 0.30 |
| **1200** | 0.66 | 0.55 | 0.47 | 0.41 | 0.37 | 0.33 | 0.30 | 0.27 |

- Allowable ceilings weights are calculated based on a maximum recommended hanger load of 0.4 kN.
- The eccentric load introduction into the fastener is already considered in these load values.
- Fastening of redundant non-structural components (details see ETA-22/0587).

### Stick rate estimation



| Designation | Soft/standard concrete | Tough concrete |
|---|---|---|
| X-HS DKH | 100 % | 100 % |

- The stick rate indicates the percentage of nails that were driven correctly to carry a load.
- Stick rate can vary from the above values depending on job site conditions.

## System recommendation

### System recommendation for fastening collated nails with powder-actuated tools

| Designation | Powder-actuated tool | | |
|---|---|---|---|
| | DX 6 F8 | DX 5 F8 | DX 460 F8 |
| X-HS DKH | ■ | ■ | ■ |

■ = recommended □ = feasible

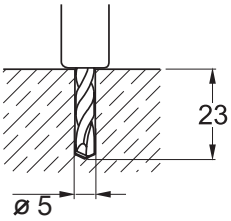
### Cartridge recommendation

| Base material | Cartridge color (tool power level) | |
|---|---|---|
| | Tool type: DX 6 F8 | Tool type: DX 5 F8, DX 460 F8 |
| | Cartridge type: 6.8/11 M10 for DX 6 | Cartridge type: 6.8/11 M10 |
| Soft/standard concrete | titanium ■ (6-8), black ■ (7–8) | red ■, black ■ |
| Tough concrete | titanium ■ (4-7) | yellow ■, red ■ |

- Tool power level adjustment by setting tests on site (see chapter quality assurance).
- For more details, please refer to the chapter Accessories and consumables compatibility in the Direct Fastening Technology Manual (DFTM).

## Installation recommendation

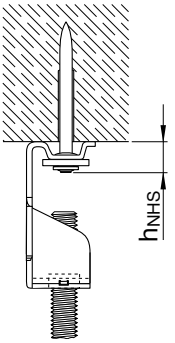
### Pre-drilling




| | |
|---|---|
| Base material | Concrete |
| Concrete class | C20/25 – C50/60 |
| Nominal diameter of drill bit [mm] | 5 |
| Cutting diameter of drill bit $d_{cut}$ [mm] | 5.4 |
| Depth of pre-drilling [mm] | 23 |
| Drill bit | TX-C 5/23,<br>TX-C 5/23B |

## Quality assurance

### Fastening inspection

| Hanger type | Designation | Fastener stand-off $h_{NHS}$ [mm] |
|---|---|---|
|  Threaded rod | X-HS M6 DKH18P8S15<br>X-HS M8 DKH18P8S15<br>X-HS M10 DKH48P8S15 | 6– 10 |

- Visible setting failures must be replaced with a new fastener, not in the same hole.
- These are abbreviated instructions which may vary by application. Always review/ follow the instructions accompanying the product.

## Fastener program

### Item no. and description

| Designation | Item no | Description |
|---|---|---|
| X-HS M6 DKH18P8S15 | 299696 | Hybrid ceiling hanger |
| X-HS M8 DKH18P8S15 | 299697 | |
| X-HS M10 DKH48P8S15 | 299698 | |