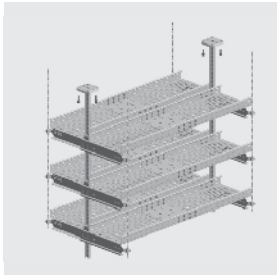


## 7 Fire-resistant systems



Fire-resistant systems



Accessories



**FIRE-RESISTANT SYSTEMS**
**► CABLE TRAYS**

KBSCL60	Cable Tray Clickable	515
KBS60	Perforated cable tray	516
KPBS	Joiner for Cable tray (BS)	516
BG	Inside bracket	517

**► CABLE LADDERS**

KLLIBS60	Cable ladder interlocking ends (BS)	517
KLBS60	Cable ladder KL (BS)	518
KPBSKL	Joiner for cable ladder (BS)	518
LBS	Strip (BS)	518

**► MOUNTING SYSTEMS**

KCLBS	Click-on bracket (BS)	519
DKBS	Double bracket (BS)	519
HDWK	Welded bracket	520
HDWKM	Heavy welded bracket	520
HSMES	Single ceiling profile	521
HDHSMU50	Ceiling profile medium heavy	521
HDTSU	Spacer for HDHSMU50	522
DR15.30	Supporting profile	522
HDHSLECL	Single ceiling profile clippable	523
MPCL41.21	Clippable assembly profile	523
CLHS	Adapter for HDHSLECL	524
TIM	Threaded rod (DIN 975)	524
HDBSKLEM	Clamp for fixing of threaded rod (BS)	524
HDVS41.05	Assembly accessory	525
HDVS41.45	Assembly accessory	525
QL	Quick link with screw cap	526

**► CABLE CLAMPS**

VZBG	Hermann S Multi Cable Support E30-E90	526
SYBS	Stop for Y cable clamp (BS)	527
HDH1	Cable clamp	528
	TECHNICAL INFORMATION	529

**ACCESSORIES**
**► ACCESSORIES**

B	Bolt (DIN 933)	544
M	Nut (DIN 934)	544
VM6334	Coupling nut (DIN 6334)	544
VM	Toothed round head bolt / flange nut	545
VMK	Round head square neck bolt / flange nut	545
RO	Giant washer (DIN 125-1 A)	545
CRO	Flat giant washer (DIN 9021)	546
BSTAG	Identification label Fire-resistant Syst	546

## INTRODUCTION

The safety of people in case of fire can only be guaranteed if all the necessary safety installations remain operational. Cable support systems with preservation of functionality maintain their supporting function in case of fire and thereby contribute to the continuing operation of an installation. Until the European standard is published, VERGOKAN uses, the DIN 4102-12 Standard to test and certify the preservation of functionality of its installations.

## DIN 4102-12

The DIN Standard 4102 part 12 defines the requirements and testing method for fire resistance of electric cable support systems required to maintain its integrity. The standard, limited to 1KV, specifies 3 categories of functional maintenance as follows: E30, E60 and E90. These categories designate the period of time for which the integrity of the installation is maintained. To determine which installations must have functional integrity in case of fire, we refer to local regulations.

## IMPLEMENTATION

Cable support systems with functional integrity are tested for one configuration, which may be altered under certain conditions as long as the functional integrity of the cables isn't negatively influenced by the installation. Permitted deviations are:

- The load per metre and/or the support distance may be reduced;
- The width of the trays/ladders and brackets may be reduced;
- The number of trays/ladders may be reduced;
- The horizontal distance between the trays and the ladders may be adapted;
- The material gauges may be increased;
- A setup may be horizontally or vertically offset, as long as the offset sections are adequately supported to prevent buckling or shearing;
- Any certified soffit fixed support system may also be used for wall mounting;
- A bolted connection may be replaced by a welded connection.

## STANDARD SUPPORTING CONSTRUCTION

The supporting constructions described in DIN Standard 4102 part 12 are also named cable independent supporting constructions. According to the regulations in Germany, all the cables with functional integrity according to DIN Standard 4102 part 12 are applicable to these constructions.

These constructions satisfy the following conditions:

- Support distance  $\leq 1200\text{mm}$
- Material gauge of the trays/ladder walls  $\geq 1,5\text{mm}$
- Height of the trays/ladders = 60mm
- Width of the ladders  $\leq 400\text{mm}$
- Width of the trays  $\leq 300\text{mm}$  (perforation rate 15±5%)
- Rung distance of the ladders  $\leq 150\text{mm}$
- The extent of the arm is supported by a threaded rod fixed to the soffit
- The load is  $\leq 10\text{kg/lm}$  for cable trays and  $\leq 20\text{kg/lm}$  for cable ladders

Standard supporting constructions are tested according to DIN Standard 4102 part 12 and certified with "GS" certificates (Gutachterlichen Stellungnahme). These certificates can be found on our website.

## NON-STANDARD SUPPORTING CONSTRUCTION

These are supporting constructions that don't comply with the conditions for standard supporting constructions. Non-standard supporting constructions are also tested in accordance with DIN Standard 4102 part 12. According to the German regulation, these supporting constructions are cable specific. That means that in these constructions, the cables with functional integrity must be of the same type and brand as specified in the ABP certificate (Allgemeines Bauaufsichtliches Prüfzeugnis).

DIN Standard 4102 part 12 is a German standard. Non-German test institutes can also be accredited to test according to this standard. However, our experience is that the German market doesn't recognise certificates issued by these non-German institutes. Please verify what the regulations are in your market.

## FAQ

Are there any restrictions regarding the installation of supporting constructions with functional integrity below ground?

**Answer:** No, as long as the construction to be installed matches the functional integrity requirements.

Which anchors/plugs should be used?

**Answer:** Certificated plugs or anchors with preservation of functionality that at least matches that of the supporting construction. These may be loaded to a maximum of 500N.

How many levels can I mount on a ceiling profile?

**Answer:** That depends on the relevant certificate. Normally one may assume that the maximum tensile stress and maximum bending moment on the ceiling profile may not be larger than the certificated setup.

May I lay cables without functional integrity onto an installation with functional integrity?

**Answer:** Each country has its rules.

May I use coated cable trays or ladders with functional integrity?

**Answer:** The authorised use of coating on a cable tray needs to be specifically mentioned in the certificate. The most recent certificates obtained by Vergokan authorise the use of coatings. Consult your Vergokan contact to establish which certificates are applicable.

May I use a galvanised supporting construction?

**Answer:** Yes, it's also specifically mentioned in the certificate.

May I use a supporting construction in stainless steel?

**Answer:** Yes, as long as the load performance and other dimensions (such as material gauge) remains the same. Consult your Vergokan contact to establish which stainless steel products may be used.

May one use intersections, bends and tees in constructions with functional integrity?

**Answer:** Accessories are allowed as long as they are supported directly before and after each piece.

May I fit a cover onto a supporting construction with functional integrity?

**Answer:** A cover may have a negative impact on the cables in case of fire. A cover needs to be specifically tested and included in the certificate. Vergokan has not yet carried out tests with covers.

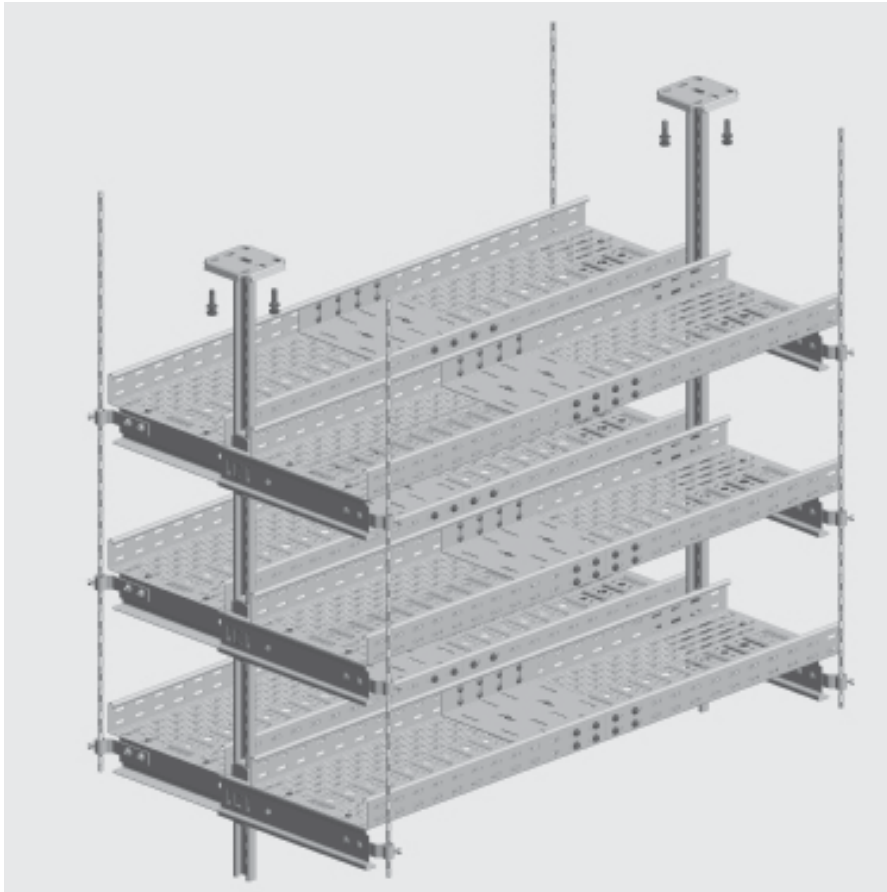
May I use a vertical installation with functional integrity in an open space (away from a wall)?

**Answer:** No, vertical installations must be fixed onto a wall.

For further questions, please contact our technical advisers.



## 7 Fire-resistant systems



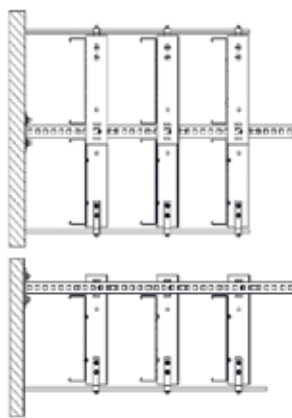
## SELECTION TABLES FOR FIRE-RESISTANT SYSTEMS

### 1 Constructions with cable tray

#### 1.1 Fixing to the ceiling

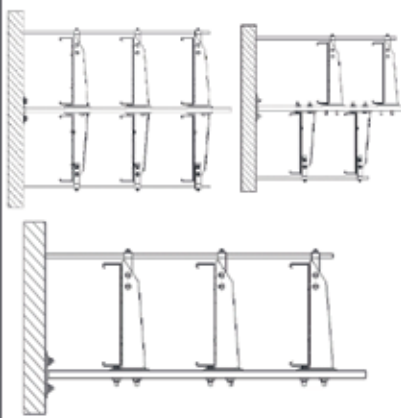
##### 1.1.1 Standard supporting constructions

###### 1.1.1.1 Fixing



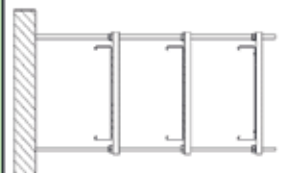
Code	Conditions	Cable manufacturer	Standard	Certificate
KBS60.100-300.150	Max. 3 levels	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305 / 9930 - 2
KPBS100-300	Max. 6 cable trays			
HDHSLECL300-1200	Gauge 1,5 mm			
KCLBS100-300	Max. width = 300 mm			
HDBSKLEM	Max. load (F) = 10 kg/m			
TIM8-10-12	Max. support distance (L) ≤ 1200 mm			

###### 1.1.1.2 Fixing



Code	Conditions	Cable manufacturer	Standard	Certificate
KBS60.100-300.150	Max. 3 levels	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305 / 9930 - 2
KPBS100-300	Max. 6 cable trays			
HDHSLECL300-1200	Gauge 1,5 mm			
HDWK100-300	Max. width = 300 mm			
HDBSKLEM	Max. load (F) = 10 kg/m			
TIM8-10-12	Max. support distance (L) ≤ 1200 mm			

###### 1.1.1.3 Fixing



Code	Conditions	Cable manufacturer	Standard	Certificate
KBS60.100-300.150	Max. 3 levels	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305 / 9930 - 2
KPBS100-300	Max. 3 cable trays			
TIM8-10-12	Gauge 1,5 mm			
MPCL41.21.150.200-400	Max. width = 300 mm			
	Max. load (F) = 10 kg/m			
	Max. support distance (L) ≤ 1200 mm			



1.1.2 Non-standard supporting constructions


1.1.2.1 Single fixing

1.1.2.1.1 Fixing




Code	Conditions	Cable manufacturer	Standard	Certificate
KBSI60.100-300.075 HDHSMU50.200-1500 HDWKM100-300	Max. 2 levels Max. 2 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP MPA-E-14-007

1.1.2.1.2 Fixing



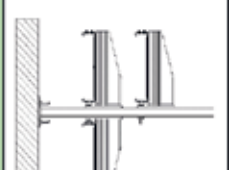
Code	Conditions	Cable manufacturer	Standard	Certificate
KBSI60.100-300.075 HDHSMU50.200-1500 HDWKM100-300	Max. 3 levels Max. 3 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler and Prysmlan	DIN4102-12	Fires-JR-057-16-NURE

1.1.2.1.3 Fixing

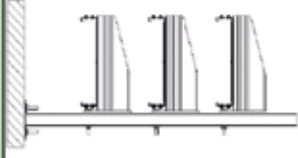
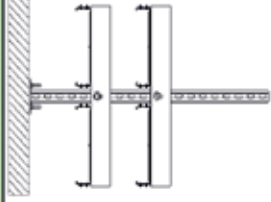
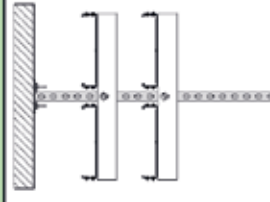
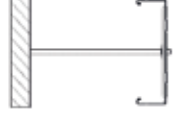


Code	Conditions	Cable manufacturer	Standard	Certificate
KBSI60.075-400.100 HDHSMU50.200-1500 HDWKM100-400	Max. 3 levels Max. 3 cable trays Gauge 1 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler Prysmlan and Prakab Datwyler and Prakab Prysmlan, Faber and Prakab Datwyler, Faber and Prakab	DIN4102-12 DIN4102-12 DIN4102-12 DIN4102-12 DIN4102-12	Fires-JR-051-16-NURE Fires-JR-054-16-NURE Fires-JR-060-16-NURE Fires-JR-063-16-NURE Fires-JR-066-16-NURE


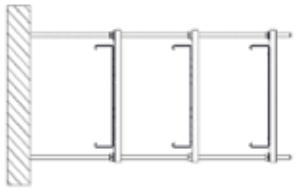
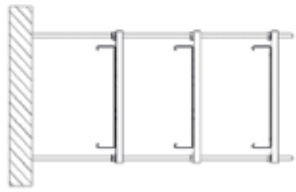
1.1.2.1.4 Fixing



Code	Conditions	Cable manufacturer	Standard	Certificate
KBSI60.100-300.075 HSMES200-1000 HDWKM100-300	Max. 2 levels Max. 3 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP MPA-E-14-007


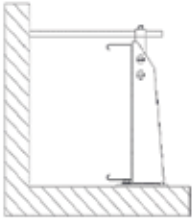
1.1.2.1.5	Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
		KBSC160.075-300.075 HSMES200-1000 HDWIKM100-300	Max. 3 levels Max. 3 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP P-MPA-E-20-001
1.1.2.1.6	Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
		KBSI60.100-300.075 HSMES200-1000 DKBS100-300	Max. 2 levels Max. 4 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP MPA-E-14-007
1.1.2.1.7	Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
		KBSC160.075-300.075 HSMES200-1000 DKBS100-300	Max. 2 levels Max. 4 cable trays Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP P-MPA-E-20-001
1.1.2.1.8	Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
		KBSC160.075-200.075 BG60.075-200 TIM10	Max. 1 level Max. 1 cable tray Gauge 0,75 mm Max. width = 200 mm Max. load (F) = 7,5 kg/m Max. support distance (L) ≤ 1500 mm	Leoni Studer	DIN4102-12	ABP P-MPA-E-20-001

1.1.2.2.2 Double fixing

Code	Conditions	Cable manufacturer	Standard	Certificate
 <p>KBSI60.075-400.125 HDHSECL300-1200 HDWK100-400 HDBSKLEM TIM10-12</p>	<p>Max. 2 levels Max. 2 cable trays Gauge 1.25 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm</p>	Datwyler	DIN4102-12	ABP 3321/380/10 MPA BS
 <p>KBSI60.075-400.100 TIM8-10-12 MPCL41.21.150.200-500</p>	<p>Max. 3 levels Max. 3 cable trays Gauge 1 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1200 mm</p>	Datwyler	DIN4102-12	ABP 3321/380/10 MPA BS
 <p>KBSCL60.075-300.075 TIM8-10-12 MPCL41.21.150.200-400</p>	<p>Max. 3 levels Max. 3 cable trays Gauge 0.75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm</p>	Datwyler	DIN4102-12	ABP P-MPA-E-20-001




## 1.2 Fixing to the wall

### 1.2.1 Standard supporting constructions

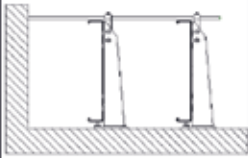
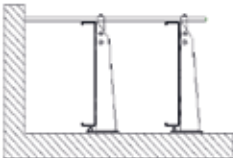
Code	Conditions	Cable manufacturer	Standard	Certificate
 <p>           KBS60.100-300.150            KPBS100-300            HDWK100-300            HDBSKLEM            TIM10            HDVS41.45         </p>	Max. 1 level Max. 1 cable tray Gauge 1,5 mm Max. width = 300 mm Max. load (F) = 10 kg/m Max. support distance (L) ≤ 1200 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305 / 9930 - 2
 <p>           KBS60.100-300.150            KPBS100-300            HDWK100-300            HDBSKLEM            TIM10         </p>	Max. 1 level Max. 1 cable tray Gauge 1,5 mm Max. width = 300 mm Max. load (F) = 10 kg/m Max. support distance (L) ≤ 1200 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305 / 9930 - 2

1.2.2 Non-standard supporting constructions

1.2.2.1 Single fixing

1.2.2.1.1 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KBS160.100-300.075 HDWK100-300	Max. 1 level Max. 1 cable tray Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler and Eupen Datwyler and Pysmian	DIN4102-12 DIN4102-12	ABP MPA-E-14-007 Fires-JR-057-16-NURE
1.2.2.1.2 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KBS160.075-400.100 HDWK100-400	Max. 1 level Max. 1 cable tray Gauge 1 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler Pysmian and Prakab Datwyler and Prakab Pysmian, Faber and Prakab Datwyler, Faber and Prakab	DIN4102-12 DIN4102-12 DIN4102-12 DIN4102-12 DIN4102-12	Fires-JR-051-16-NURE Fires-JR-054-16-NURE Fires-JR-060-16-NURE Fires-JR-063-16-NURE Fires-JR-066-16-NURE
1.2.2.1.3 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KBSC160.075-300.075 HDWK100-300	Max. 1 level Max. 1 cable tray Gauge 0,75 mm Max. width = 300 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler, Eupen and Leoni Studer	DIN4102-12	ABP P-MPA-E-20-001

1.2.2.2 Double fixing

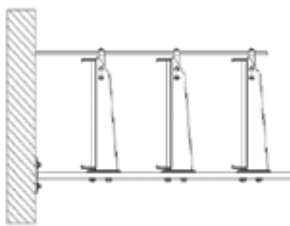
1.2.2.2.1 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KBS160.075-400.125 HDWK100-400 HDBSKLEM TIM10-12	Max. 2 levels Max. 2 cable trays Gauge 1,25 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler	DIN4102-12	ABP 3321/380/10 MPA BS
1.2.2.2.2 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KBS160.075-400.100 HDWK100-400 HDBSKLEM TIM10-12	Max. 2 levels Max. 2 cable trays Gauge 1 mm Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1500 mm	Datwyler	DIN4102-12	ABP 3321/380/10 MPA BS

## 2 Constructions with cable ladder

### 2.1 Fixing to the ceiling

#### 2.1.1 Standard supporting constructions

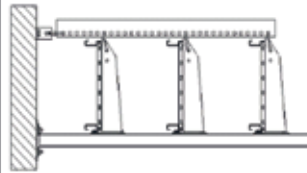
##### 2.1.1.1 Fixing



Code	Conditions	Cable manufacturer	Standard	Certificate
KLBS60.200-400	Max. 3 levels	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305-9830-1
KPBSKL200-400	Max. 3 cable ladders			
HDHSLECL300-1200	Max. width = 400 mm			
HDWK200-400	Max. load (F) = 20 kg/m			
HDBSKLEM TIM12	Max. support distance (L) ≤ 1200 mm			


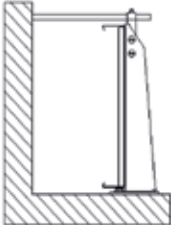
#### 2.1.2 Non-standard supporting constructions

##### 2.1.2.1 Fixing



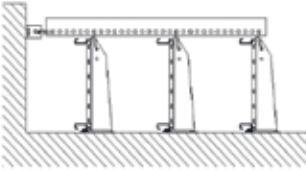
Code	Conditions	Cable manufacturer	Standard	Certificate
KLLBS60.150-400	Max. 3 levels	Eupen	DIN4102-12	ABP MPA-E-14-007
HSMES200-1000	Max. 3 cable ladders			
HDWK150-400	Max. width = 400 mm			
QL6	Max. load (F) = 30 kg/m			
LBS60.200-1500 VS41.05	Max. support distance (L) ≤ 1500 mm			

2.2 Fixing to the wall  
2.2.1 Standard supporting constructions

2.2.1.1 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KLBS60.200-400	Max. 1 levels Max. 1 cable ladders Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1200 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305-9930-1
	KPBSKL200-400				
	HDWK200-400	Max. 1 levels Max. 1 cable ladders Max. width = 400 mm Max. load (F) = 20 kg/m Max. support distance (L) ≤ 1200 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3305-9930-1
	HDBSKLEIM				
	TIM10				
	HDVS41.45				

2.2.1.2 Fixing

2.2.2 Non-standard supporting constructions

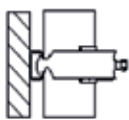
2.2.2.1 Fixing	Code	Conditions	Cable manufacturer	Standard	Certificate
	KLLIBS60.150-400	Max. 3 levels Max. 3 cable ladders Max. width = 400 mm Max. load (F) = 30 kg/m Max. support distance (L) ≤ 1500 mm	Eupen	DIN4102-12	ABP MPA-E-14-007
	HDWK150-400				
	QL6				
	LBS60.200-1500				
	VS41.05				

### 3 Fixing with cable clamps

#### 3.1 Fixing to the ceiling

##### 3.1.1 Standard supporting constructions

Code	Conditions	Cable manufacturer	Standard	Certificate
DR15.30 Kabelkllem H	Max. support distance (L) ≤ 300 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3335 / 772 / 11 - 3



##### 3.1.2 Non-standard supporting constructions

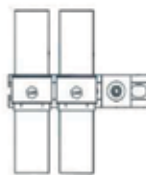
Code	Conditions	Cable manufacturer	Standard	Certificate
VZBG	Max. load (F) = 3 kg/m or 6 kg/m Max. support distance (L) ≤ 600 mm or ≤ 800 mm	Datwyler	DIN4102-12	P-MPA-E-03-043 P-MPA-E-04-019 P-MPA-E-06-030
VZBGS	Max. load (F) = 3 kg/m Max. support distance (L) ≤ 600 mm or ≤ 800 mm	Datwyler	DIN4102-12	P-MPA-E-03-043 P-MPA-E-04-019 P-MPA-E-06-030



#### 3.2 Fixing to the wall

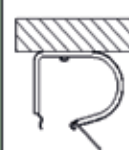
##### 3.2.1 Standard supporting constructions

Code	Conditions	Cable manufacturer	Standard	Certificate
DR15.30 Kabelkllem H SYBS	Max. support distance (L) ≤ 300 mm	Applicable with all DIN 4102-12 certified cables	DIN4102-12	GS 3335 / 772 / 11 - 3



##### 3.2.2 Non-standard supporting constructions

Code	Conditions	Cable manufacturer	Standard	Certificate
VZBG	Max. load (F) = 3 kg/m or 6 kg/m Max. support distance (L) ≤ 600 mm or ≤ 800 mm	Datwyler	DIN4102-12	P-MPA-E-03-043 P-MPA-E-04-019 P-MPA-E-06-030
VZBGS	Max. load (F) = 3 kg/m Max. support distance (L) ≤ 600 mm or ≤ 800 mm	Datwyler	DIN4102-12	P-MPA-E-03-043 P-MPA-E-04-019 P-MPA-E-06-030





# KBSCCL60

## Cable Tray Clickable



Clicking ends  
Alternative perforations  
Return flanges

Standard finish	Pre-galvanised
Optional finish	zinc magnesium
Optional finish PE	Coating

HD	Reference	↓ mm	↔ mm	↔ mm	↔ mm	kg/m	⊞	Stock	Unit
-	<b>KBSCCL60.075.075</b>	60	75	0.75	3000	1.032	60	X	m
-	<b>KBSCCL60.075.100</b>	60	75	1.00	3000	1.324	60	X	m
-	<b>KBSCCL60.100.075</b>	60	100	0.75	3000	1.200	60	X	m
-	<b>KBSCCL60.100.100</b>	60	100	1.00	3000	1.535	60	X	m
-	<b>KBSCCL60.150.075</b>	60	150	0.75	3000	1.462	30	X	m
-	<b>KBSCCL60.150.100</b>	60	150	1.00	3000	1.869	30	X	m
-	<b>KBSCCL60.200.075</b>	60	200	0.75	3000	1.723	30	X	m
-	<b>KBSCCL60.200.100</b>	60	200	1.00	3000	2.199	30	X	m
-	<b>KBSCCL60.300.075</b>	60	300	0.75	3000	2.234	30	X	m
-	<b>KBSCCL60.300.100</b>	60	300	1.00	3000	2.853	30	X	m

The technical information for this product can be found at the end of this chapter.

### FEATURES

- Clickable.
- The simplest jointing system, with a single movement.
- Rapid - Just click and ready for the next joint. Immediate alignment at the same time.
- Strong - As strong as a bolted joint.
- Reliable - Maximum load with snap-fit joint. Multiple jointing options available.
- Cost-effective - Working faster results in immediate time and cost savings.
- High standard - Wide and complete range of accessories available.

Etched perforations for:

- better stability
- extra load-bearing capacity
- better cooling

Longitudinal and transverse perforations for:

- better fixing to the support
- convenient cable bundling

Equipotential bonding available by 1. snap-fit joint, 2. bolted joint, 3. push-through lip in the bottom and 4. lateral fitting lip for earth conductor.

### TECHNICAL INFORMATION

Perforation pattern varies according to width.

Transverse perforation as from 200 mm width.

16 mm dia. and 20.4 mm dia. openings to be provided for fitting a gland.

SLIS60 snap-in partition to suit width as from 75 mm every 50 mm in the width direction.

Can be secured with VM6.10 or KBVCL as an option.

# KBS60

## Perforated cable tray



Max. load	10 daN
Standard finish	Pre-galvanised
Optional finish	Hot-dip galvanised
Optional finish PE	Coating

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/m	📦	Stock	Unit
HD	<b>KBS60.100.150</b>	60	100	1.50	3000	2.350	60	X	m
HD	<b>KBS60.150.150</b>	60	150	1.50	3000	2.830	30	X	m
HD	<b>KBS60.200.150</b>	60	200	1.50	3000	3.320	30	X	m
HD	<b>KBS60.300.150</b>	60	300	1.50	3000	4.300	30	X	m

The technical information for this product can be found at the end of this chapter.

# KPBS

## Joiner for Cable tray



For joining of KBS60.

Standard finish	Pre-galvanised
Optional finish	Hot-dip galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>KPBS100</b>	55	96		-	0.550	1	X	piece
HD	<b>KPBS150</b>	55	146		-	0.670	1	X	piece
HD	<b>KPBS200</b>	55	196		-	0.850	1	X	piece
HD	<b>KPBS300</b>	55	296		-	1.100	1	X	piece

Fix with:

HD	<b>VMK6.10</b>	-	-	M6	-	0.009	100	X	piece
HD	<b>VMK6.10</b>	-	-	M6	-	0.009	100	X	piece

Use all perforations.

# BG

## Inside bracket



To order	Height 35 mm
Standard finish	Pre-galvanised
Optional finish	Hot-dip galvanised
Optional finish PE	Coating

Largeur	Max. load (in daN)
BG075	200
BG100	200
BG150	200
BG200	150
BG250	120
BG300	90
BG400	30

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>BG60.075</b>	54	70		-	0.200	12	X	piece
HD	<b>BG60.100</b>	54	95		-	0.210	12	X	piece
HD	<b>BG60.150</b>	54	145		-	0.270	12	X	piece
HD	<b>BG60.200</b>	54	195		-	0.330	12	X	piece

To order per full packaging.  
Delivered with nut M10.  
To be fixed with threaded rod TIM10.

# KLLIBS60

## Cable ladder interlocking ends



Usable inner height	44 mm
Rung distance	150 mm
Standard finish	Pre-galvanised
Optional finish	Hot-dip galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/m	📦	Stock	Unit
HD	<b>KLLIBS60.150</b>	60	150	1.00	3000	2.166	30		m
HD	<b>KLLIBS60.200</b>	60	200	1.00	3000	2.286	30		m
HD	<b>KLLIBS60.300</b>	60	300	1.00	3000	2.516	30		m
HD	<b>KLLIBS60.400</b>	60	400	1.00	3000	2.752	30		m

The technical information for this product can be found at the end of this chapter.

## KLBS60

### Cable ladder KL



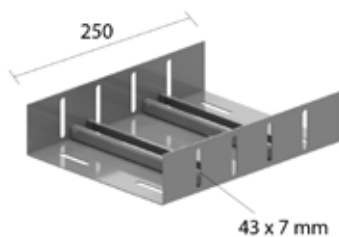
Side walls : L-profile  
C-rungs

Usable inner height	45 mm
Rung distance	100 mm
Max. load	20 daN
Standard finish	Pre-galvanised

HD	Reference	↓ mm	↔ mm	→ ← mm	↔ mm	kg/m	📦	Stock	Unit
-	<b>KLBS60.200</b>	60	200		3000	2.760	24		m
-	<b>KLBS60.300</b>	60	300		3000	3.360	24		m
-	<b>KLBS60.400</b>	60	400		3000	3.860	24		m

## KPBSKL

### Joiner for cable ladder



Standard finish Pre-galvanised

HD	Reference	↓ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>KPBSKL200</b>	55	196		-	1.100	1		piece
-	<b>KPBSKL300</b>	55	296		-	1.450	1		piece
-	<b>KPBSKL400</b>	55	396		-	1.850	1		piece

Fix with:

HD <b>VMK6.10</b>	-	-	M6	-	0.009	100	X	piece
HD <b>VMK6.10</b>	-	-	M6	-	0.009	100	X	piece

## LBS

### Strip



Standard finish Pre-galvanised

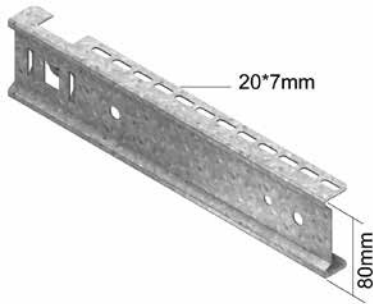
Optional finish Hot-dip galvanised

HD	Reference	↓ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>LBS60.200</b>	-	60		200	0.260	10	X	piece
HD	<b>LBS60.300</b>	-	60		300	0.390	10	X	piece
HD	<b>LBS60.400</b>	-	60		400	0.520	10	X	piece
HD	<b>LBS60.500</b>	-	60		500	0.660	10	X	piece
HD	<b>LBS60.600</b>	-	60		600	0.790	10	X	piece
HD	<b>LBS60.800</b>	-	60		800	1.050	10	X	piece
HD	<b>LBS60.1000</b>	-	60		1000	1.310	5	X	piece
HD	<b>LBS60.1200</b>	-	60		1200	1.570	5	X	piece
HD	<b>LBS60.1500</b>	-	60		1500	1.970	5	X	piece

The technical information for this product can be found at the end of this chapter.

# KCLBS

## Click-on bracket



Standard finish

Pre-galvanised

HD	Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>KCLBS100</b>	80	180		-	0.220	48		piece
-	<b>KCLBS200</b>	80	280		-	0.350	48		piece
-	<b>KCLBS300</b>	80	380		-	0.470	24		piece
Fix with:									
-	<b>VM4.40</b>	-	-	M4	40	0.005	100	X	piece
-	<b>VM4.40</b>	-	-	M4	40	0.005	100	X	piece

The technical information for this product can be found at the end of this chapter.

Completely clipsable, secured with VM4.40.

Use CLHS for symmetrical mounting.

Clamp for fixing of threaded rod (HDBSKLEM) to order separately.

# DKBS

## Double bracket



For fixing to ceiling profile HSMES.

Standard finish

Pre-galvanised

Optional finish

Hot-dip galvanised

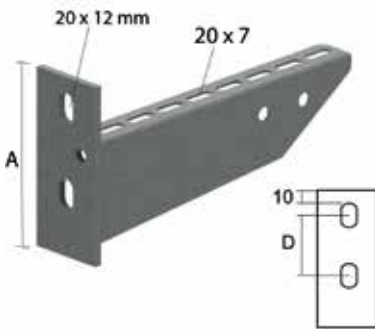
HD	Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>DKBS100</b>	82	291		-	0.860	12	X	piece
HD	<b>DKBS150</b>	82	391		-	1.170	6	X	piece
HD	<b>DKBS200</b>	82	491		-	1.470	6	X	piece
HD	<b>DKBS250</b>	82	591		-	1.780	6	X	piece
HD	<b>DKBS300</b>	82	691		-	2.090	6	X	piece

The technical information for this product can be found at the end of this chapter.

To order per full packaging.

# HDWK

## Welded bracket



Standard finish

Hot-dip galvanised

Optional finish PE

Duplex system

Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDWK100</b>	106	117		-	0.300	12	X	piece
<b>HDWK150</b>	112	167		-	0.360	12	X	piece
<b>HDWK200</b>	116	217		-	0.430	12	X	piece
<b>HDWK250</b>	120	267		-	0.530	12	X	piece
<b>HDWK300</b>	125	317		-	0.730	12	X	piece
<b>HDWK400</b>	134	417		-	0.880	6	X	piece

Fix with:

HD <b>B10.40</b>	-	-	M10	40	0.033	100	X	piece
HD <b>B10.40</b>	-	-	M10	40	0.033	100	X	piece
HD <b>CRO10</b>	-	-	M10	-	0.012	100	X	piece
HD <b>CRO10</b>	-	-	M10	-	0.012	100	X	piece
HD <b>M10</b>	-	-	M10	-	0.010	100	X	piece
HD <b>M10</b>	-	-	M10	-	0.010	100	X	piece

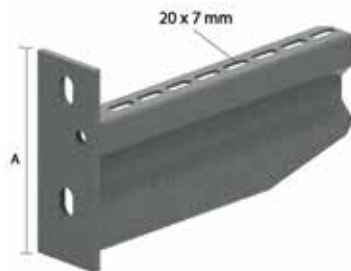
The technical information for this product can be found at the end of this chapter.

To order per full packaging.

For symmetrical mounting, use HDB12.50 + HDCRO12 + HDM12.

# HDWKM

## Heavy welded bracket



For direct fixing on the wall and also for fixing on the ceiling profile

Standard finish

Hot-dip galvanised

Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDWKM100</b>	125	125		-	0.450	12	X	piece
<b>HDWKM200</b>	134	225		-	0.650	12	X	piece
<b>HDWKM300</b>	175	325		-	1.377	6	X	piece
<b>HDWKM400</b>	175	425		-	1.696	6	X	piece

To order per full packaging.

# HSMES

## Single ceiling profile



Ceiling profile: MP41.41S  
Welded headplate: 135x135 mm

Max. load	1800 daN
Standard finish	Electro zinc-plated
Optional finish	Hot-dip galvanised
Optional finish PE	Coating

HD	Reference	↑ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>HSMES200</b>	200			-	1.020	20	X	piece
HD	<b>HSMES300</b>	300			-	1.280	1	X	piece
HD	<b>HSMES400</b>	400			-	1.530	1	X	piece
HD	<b>HSMES500</b>	500			-	1.790	1	X	piece
HD	<b>HSMES600</b>	600			-	2.050	1	X	piece
HD	<b>HSMES800</b>	800			-	2.570	1	X	piece
HD	<b>HSMES1000</b>	1000			-	3.090	1	X	piece

The technical information for this product can be found at the end of this chapter.

Also applicable for double mounting.  
Op request: until HSMES1500.

# HDHSMU50

## Ceiling profile medium heavy



Suspension support with U-profile 50 x 50 mm  
Welded head plate 135 x 135 mm  
Thickness of head plate: 5 mm

Max. load	2100 daN
Standard finish	Hot-dip galvanised

	Reference	↑ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
	<b>HDHSMU50.200</b>	200			-	0.940	20	X	piece
	<b>HDHSMU50.300</b>	300			-	1.160	1	X	piece
	<b>HDHSMU50.400</b>	400			-	1.380	1	X	piece
	<b>HDHSMU50.500</b>	500			-	1.610	1	X	piece
	<b>HDHSMU50.600</b>	600			-	1.830	1	X	piece
	<b>HDHSMU50.800</b>	800			-	2.270	1	X	piece
	<b>HDHSMU50.1000</b>	1000			-	2.710	1	X	piece
	<b>HDHSMU50.1200</b>	1200			-	3.150	1	X	piece
	<b>HDHSMU50.1500</b>	1500			-	3.820	1	X	piece

The technical information for this product can be found at the end of this chapter.

Protective cap in yellow PVC: DOPHSMU

# HDTSU

## Spacer for HDHSMU50



Standard finish

zinc magnesium

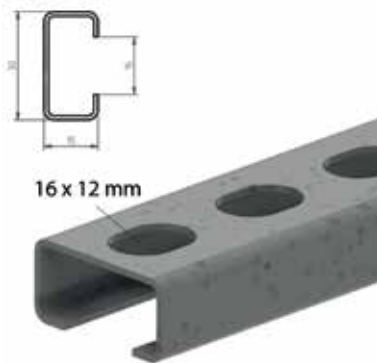
Reference	↑ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDTSU50</b>	-				0.223	12	X	piece

To order per full packaging.

Included: bolt HDB10.80, HDCRO10 and nuts HDM10.

# DR15.30

## Supporting profile



For wall and ceiling constructions

Standard finish

Pre-galvanised

Optional finish

Hot-dip galvanised

Optional finish PE

Coating

HD	Reference	↑ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>DR100</b>	15	30		100	0.060	10	X	piece
HD	<b>DR150</b>	15	30		150	0.080	10	X	piece
HD	<b>DR200</b>	15	30		200	0.110	10	X	piece
HD	<b>DR250</b>	15	30		250	0.130	10	X	piece
HD	<b>DR300</b>	15	30		300	0.160	10	X	piece
HD	<b>DR350</b>	15	30		350	0.190	10	X	piece
HD	<b>DR15.30.2000</b>	15	30		2000	0.600	40		m

Max. support distance = 300 mm.

Use of cable clamps, type H.

Applicable with all DIN 4102-12 certified cables.

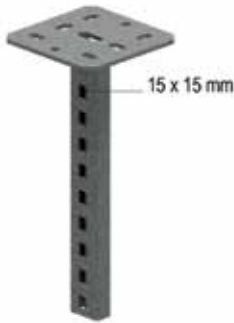
Fixing to the ceiling or wall with certified concrete anchors.

Distance between the anchors max. 250 mm.



# HDHSLECL

## Single ceiling profile clippable



Ceiling profile: HDMP41.21  
Welded headplate of 135x135 mm

Max. load	1000 daN
Standard finish	Hot-dip galvanised
Optional finish PE	Duplex system

Reference	↓ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDHSLECL300</b>	300			-	0.850	1	X	piece
<b>HDHSLECL400</b>	420			-	1.010	1	X	piece
<b>HDHSLECL500</b>	510			-	1.130	1	X	piece
<b>HDHSLECL600</b>	600			-	1.230	1	X	piece
<b>HDHSLECL800</b>	810			-	1.450	1	X	piece
<b>HDHSLECL1000</b>	1020			-	1.750	1	X	piece
<b>HDHSLECL1200</b>	1200			-	1.950	1	X	piece

The technical information for this product can be found at the end of this chapter.

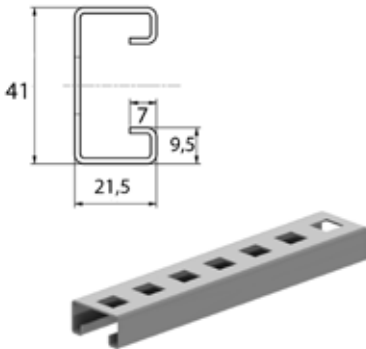
Also applicable for double mounting.

Fixed with 2 anchoring bolts.

For symmetrical mounting, to fix with 2 anchoring bolts M12.

# MPCL41.21

## Clippable assembly profile



Standard finish

Pre-galvanised

HD	Reference	↓ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>MPCL41.21.150.200</b>	41	21	1.50	210	0.240	10	X	piece
-	<b>MPCL41.21.150.300</b>	41	21	1.50	300	0.340	10	X	piece
-	<b>MPCL41.21.150.400</b>	41	21	1.50	420	0.480	10	X	piece
-	<b>MPCL41.21.150.500</b>	41	21	1.50	510	0.580	10	X	piece
-	<b>MPCL41.21.150.3</b>	41	21	1.50	3000	1.150	3	X	m

Fix with:

HD <b>M8</b>	-	-	M8	-	0.005	100	X	piece
HD <b>M10</b>	-	-	M10	-	0.010	100	X	piece
HD <b>M12</b>	-	-	M12	-	0.017	100	X	piece
HD <b>M12</b>	-	-	M12	-	0.017	100	X	piece
HD <b>RO8</b>	-	-	M8	-	0.002	100	X	piece
HD <b>RO10</b>	-	-	M10	-	0.004	100	X	piece
HD <b>RO12</b>	-	-	M12	-	0.006	100	X	piece
HD <b>RO12</b>	-	-	M12	-	0.006	100	X	piece

The technical information for this product can be found at the end of this chapter.

To order per full packaging.

# CLHS

## Adapter for HDHSLECL



For symmetrical mounting of KCLBS

Standard finish

Pre-galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>CLHS</b>	-			-	0.120	24	X	piece

To order per full packaging.

# TIM

## Threaded rod (DIN 975)



Standard finish

Electro zinc-plated

Optional finish

Hot-dip galvanised

Reference	Max. load (in daN)
TIM6	300
TIM8	550
TIM10	900
TIM12	1300

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/m	📦	Stock	Unit
HD	<b>TIM8</b>	-		M8	2000	0.319	50	X	m
HD	<b>TIM10</b>	-		M10	2000	0.500	50	X	m
HD	<b>TIM12</b>	-		M12	2000	0.725	30	X	m

Fix with:

HD	<b>M8</b>	-	-	M8	-	0.005	100	X	piece
HD	<b>M10</b>	-	-	M10	-	0.010	100	X	piece
HD	<b>M12</b>	-	-	M12	-	0.017	100	X	piece
HD	<b>RO8</b>	-	-	M8	-	0.002	100	X	piece
HD	<b>RO10</b>	-	-	M10	-	0.004	100	X	piece
HD	<b>RO12</b>	-	-	M12	-	0.006	100	X	piece

# HDBSKLEM

## Clamp for fixing of threaded rod (BS)



Very fast securing of the threaded rod TIM, using a clamping bold. Applicable on HDWK and KCLBS.

Standard finish

Hot-dip galvanised

Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDBSKLEM</b>	25	125		-	0.120	20	X	piece

To order per full packaging.  
Ends held up through threaded rod TIM.  
No additional bolts and nuts needed.  
Threaded rod can be mounted in 1 continuous length.  
Diameter of the threaded rod TIM not of influence.  
Clamping bolt to be tightened with angular momentum of 10 Nm.

## HDVS41.05

### Assembly accessory



Standard finish

Hot-dip galvanised

Optional finish PE

Duplex system

Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDVS41.05</b>	-	40	5.00	-	0.130	24	X	piece

The technical information for this product can be found at the end of this chapter.

To order per full packaging.

## HDVS41.45

### Assembly accessory



To be used when mounting the threaded rod to the wall.

Standard finish

Hot-dip galvanised

Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDVS41.45</b>	-	40	3.00	-	0.100	12	X	piece

The technical information for this product can be found at the end of this chapter.

To order per full packaging.

# QL

## Quick link with screw cap



Standard finish

Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>QL6</b>	-		6.00	-	0.040	20	X	piece
HD	<b>QL8</b>	-		8.00	-	0.080	20	X	piece

To order per full packaging.

- QL6: for fixing console to LBS.
- QL8: for fixing LBS to VS41.05.

# VZBG

## Hermann S Multi Cable Support E30-E90



Standard finish

Pre-galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>VZBG</b>	-			-	0.143	50		piece
-	<b>VZBGS</b>	-			-	0.123	50		piece

VZBG: maximum load: 6kg/m  
Maximum distance: 0.8m

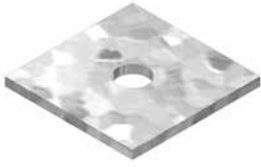
VZBGS: maximum load: 3kg/m  
Maximum distance: 0.6m

Supplied with fire retardant firing pin KDM 30mm

The bracket is ideal for safely accommodating a small number of cables with function preservation.

# SYBS

## Stop for Y cable clamp (BS)



Standard finish

Pre-galvanised

Optional finish

Hot-dip galvanised

HD	Reference	↕ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>SYBS</b>	-	30		30	0.014	50	X	piece

To order per full packaging.

# HDH1

## Cable clamp



Applicable in case of C-rungs 15x30.

Standard finish

Hot-dip galvanised

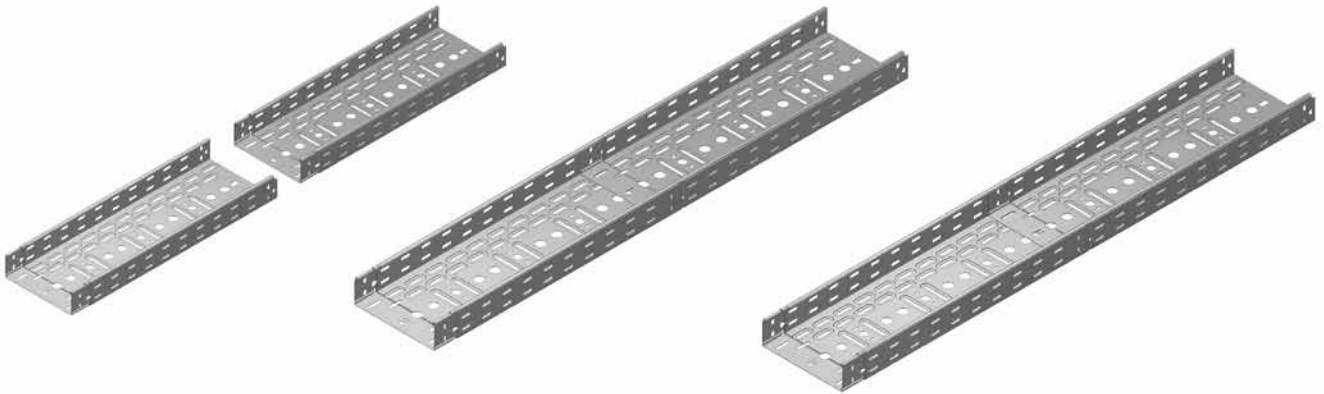
Reference	↑ mm	↔ mm	↔ mm	↔ mm	kg/ piece	📦	Stock	Unit
<b>HDY1198</b>	-	12		-	0.030	50	X	piece
<b>HDY1199</b>	-	16		-	0.030	50	X	piece
<b>HDY1200</b>	-	20		-	0.040	50	X	piece
<b>HDY1201</b>	-	24		-	0.040	50	X	piece
<b>HDY1202</b>	-	28		-	0.040	50	X	piece
<b>HDY1203</b>	-	32		-	0.060	50	X	piece
<b>HDY1204</b>	-	36		-	0.070	50	X	piece
<b>HDY1205</b>	-	40		-	0.080	50	X	piece
<b>HDY1206</b>	-	44		-	0.090	50	X	piece
<b>HDY1207</b>	-	48		-	0.100	50	X	piece
<b>HDY1208</b>	-	52		-	0.100	50	X	piece
<b>HDY1209</b>	-	56		-	0.110	50	X	piece
<b>HDY1210</b>	-	60		-	0.140	50	X	piece
<b>HDY1211</b>	-	64		-	0.160	50	X	piece
<b>HDY1212</b>	-	70		-	0.160	50	X	piece

To order per full packaging.

Max. 1 cable per cable clamp

# KBSCCL60

## Technical information



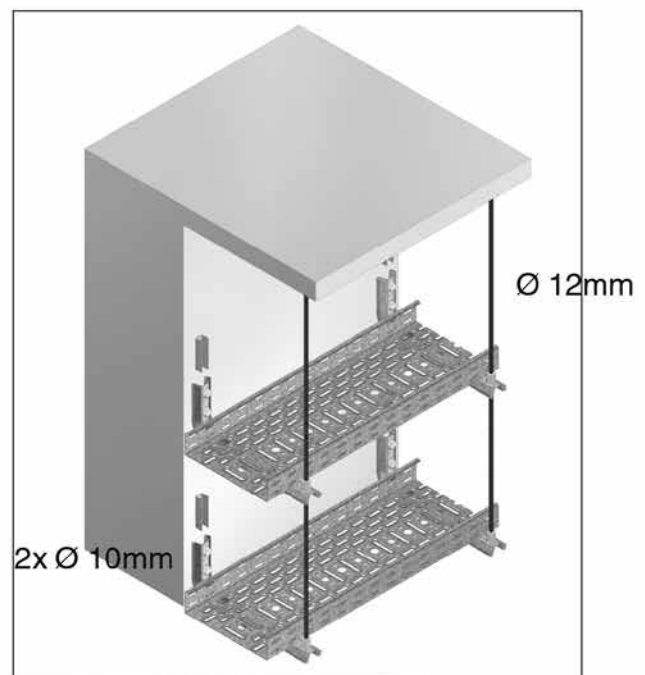
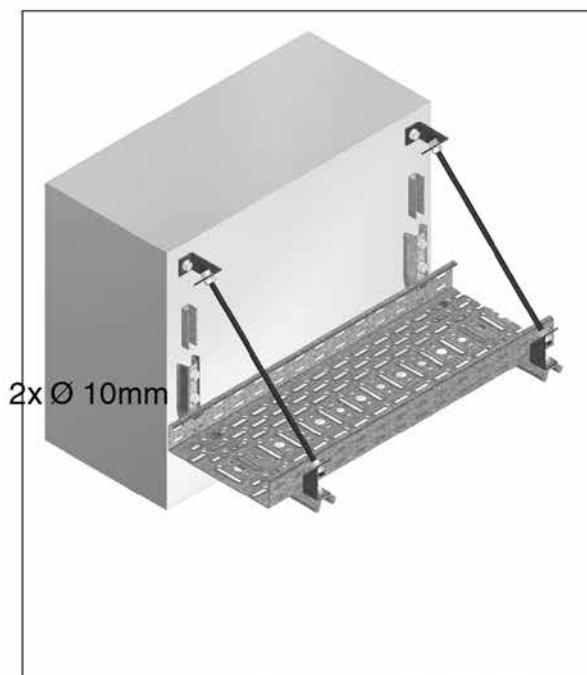
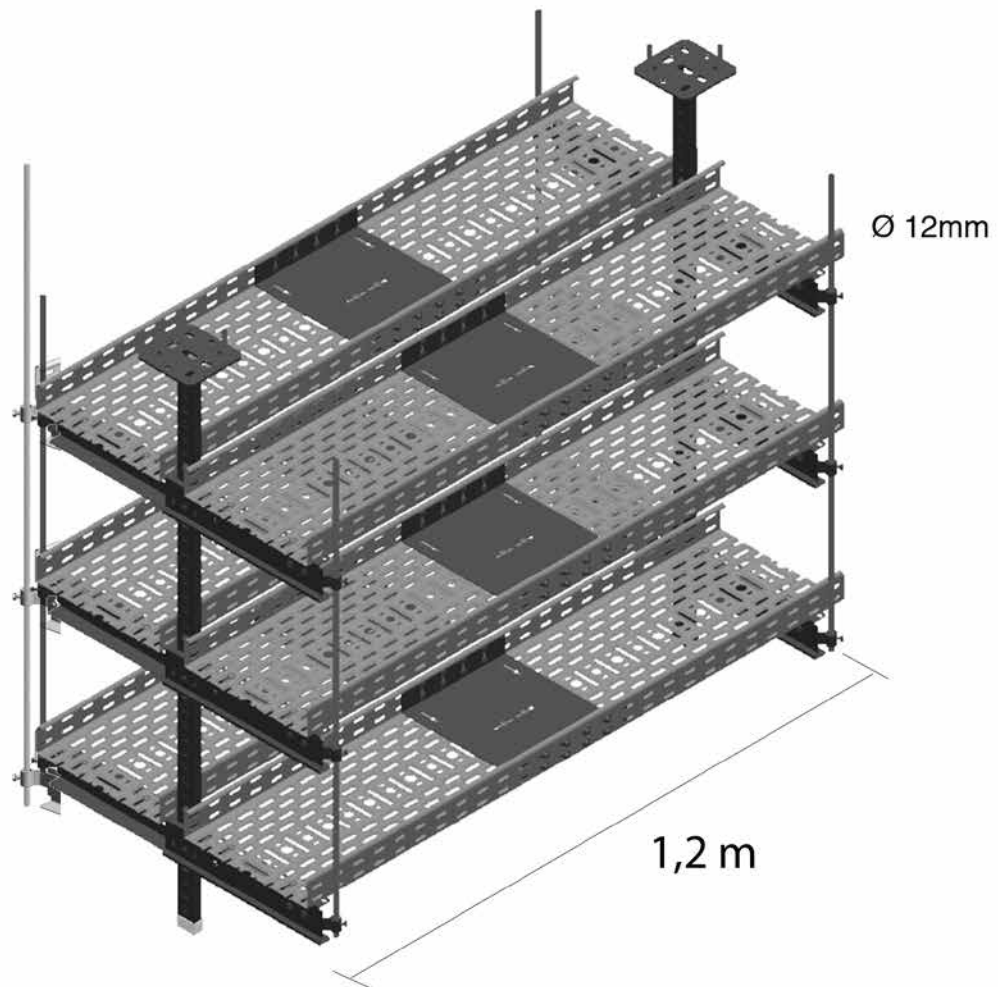
How do you proceed ?

Very simple:

1. Slide two lengths into each other until you hear a click.
2. Optional: Snap in KBVCL clips or VMK6.10 for extra stability and safe locking.
3. Finished!

# KBS60

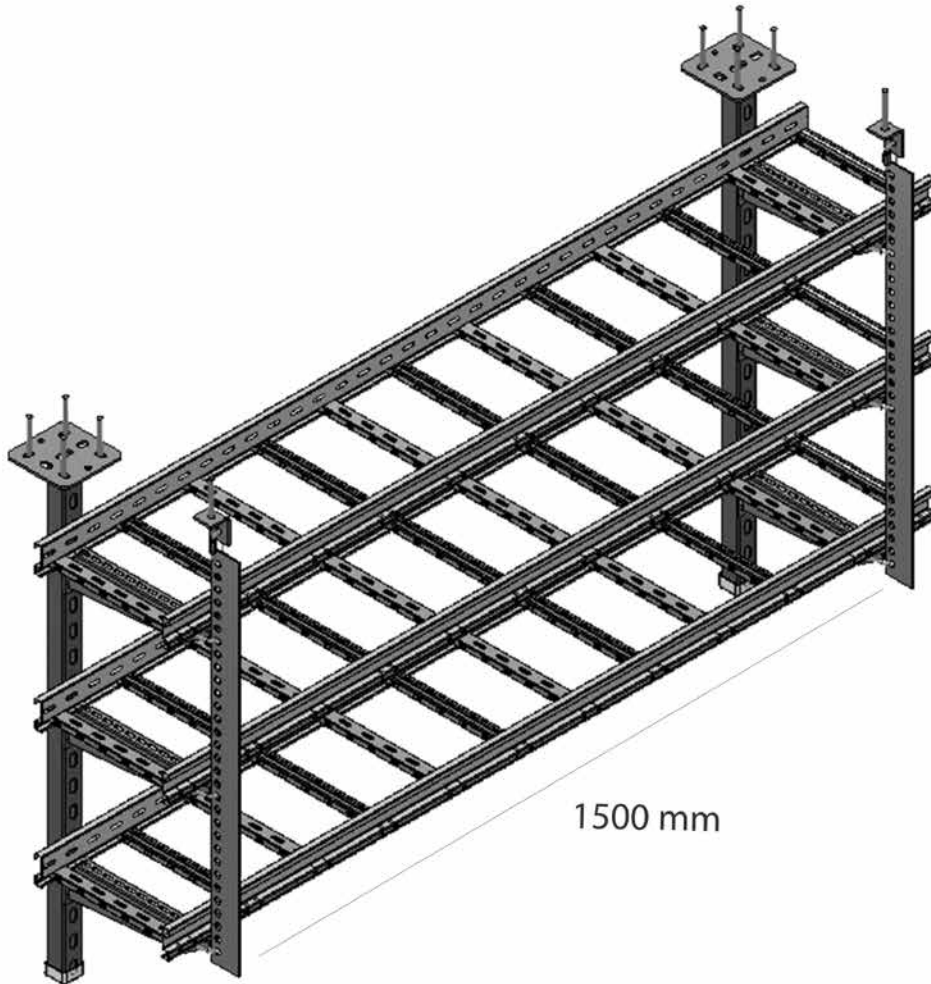
## Technical information





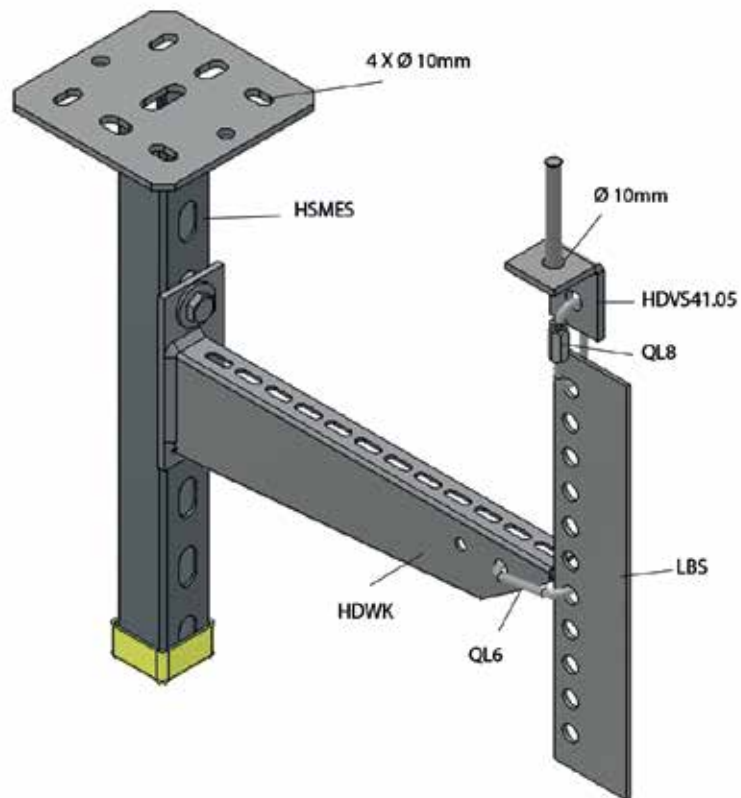
# KLLIBS60

Technical information



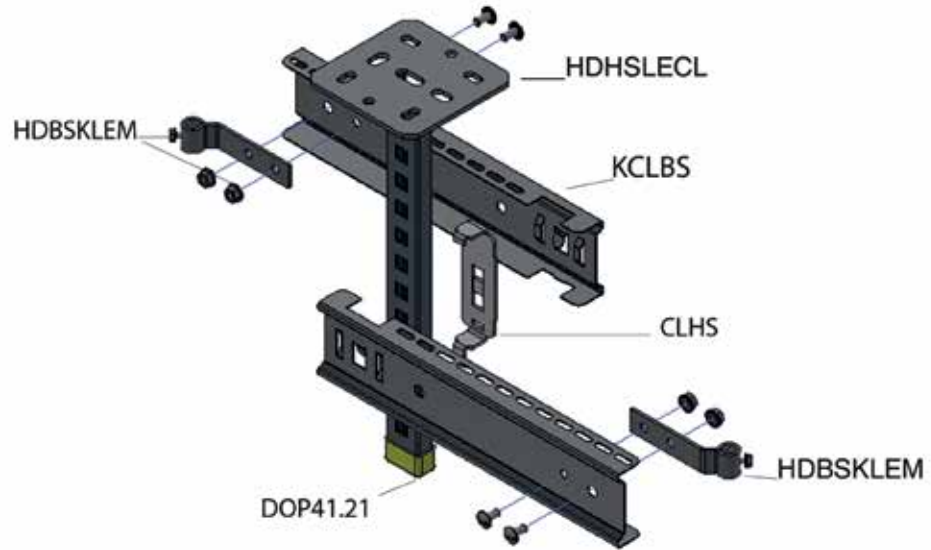
# LBS

## Technical information



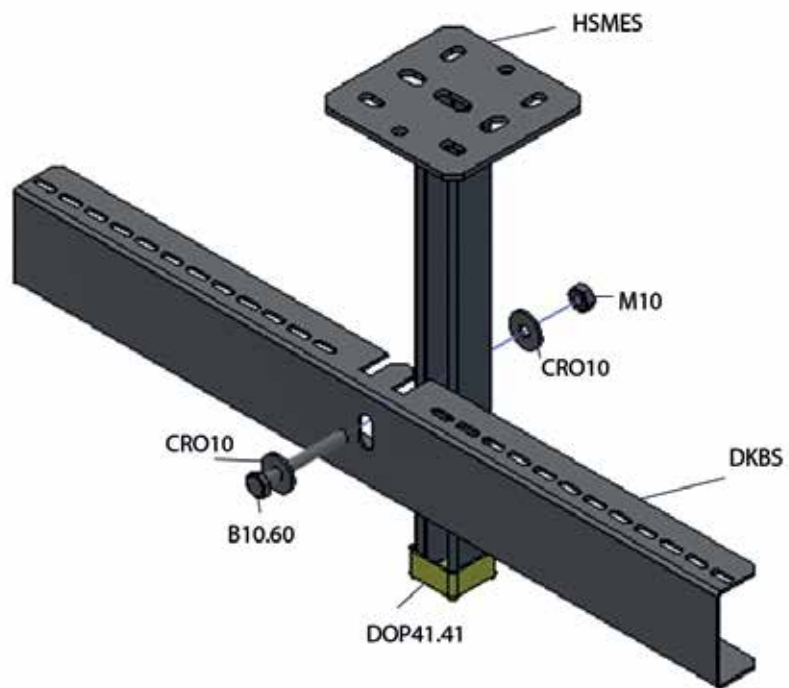
# KCLBS

## Technical information



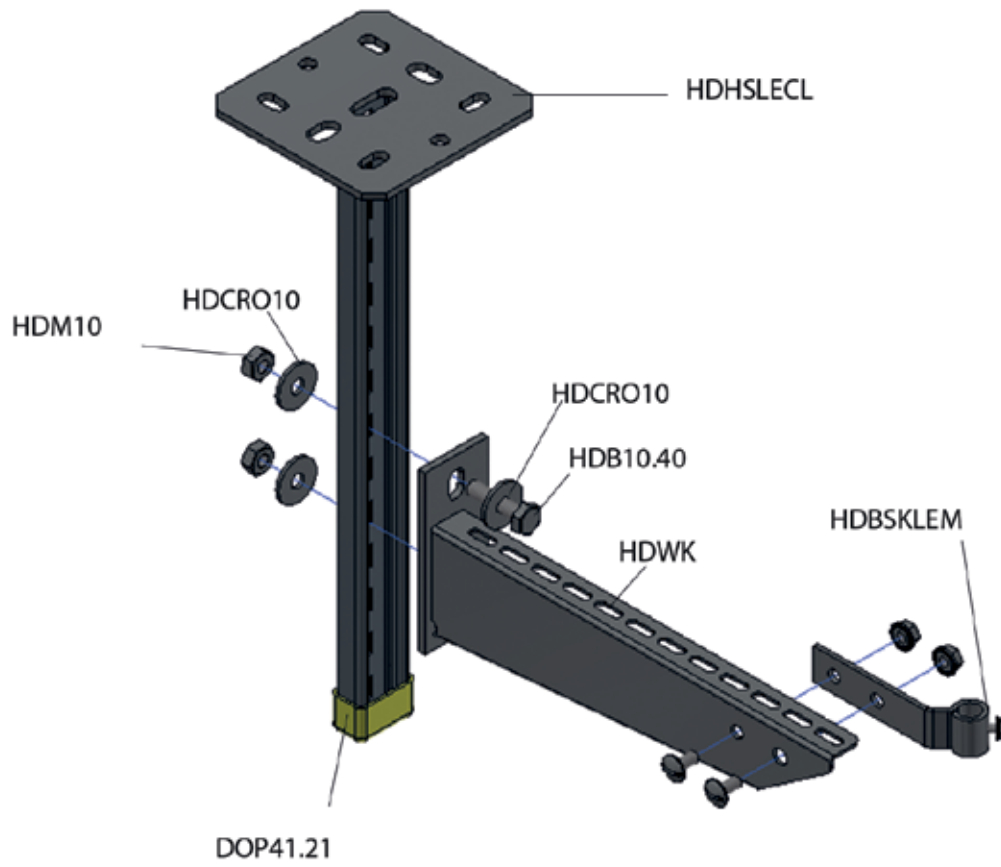
# DKBS

## Technical information



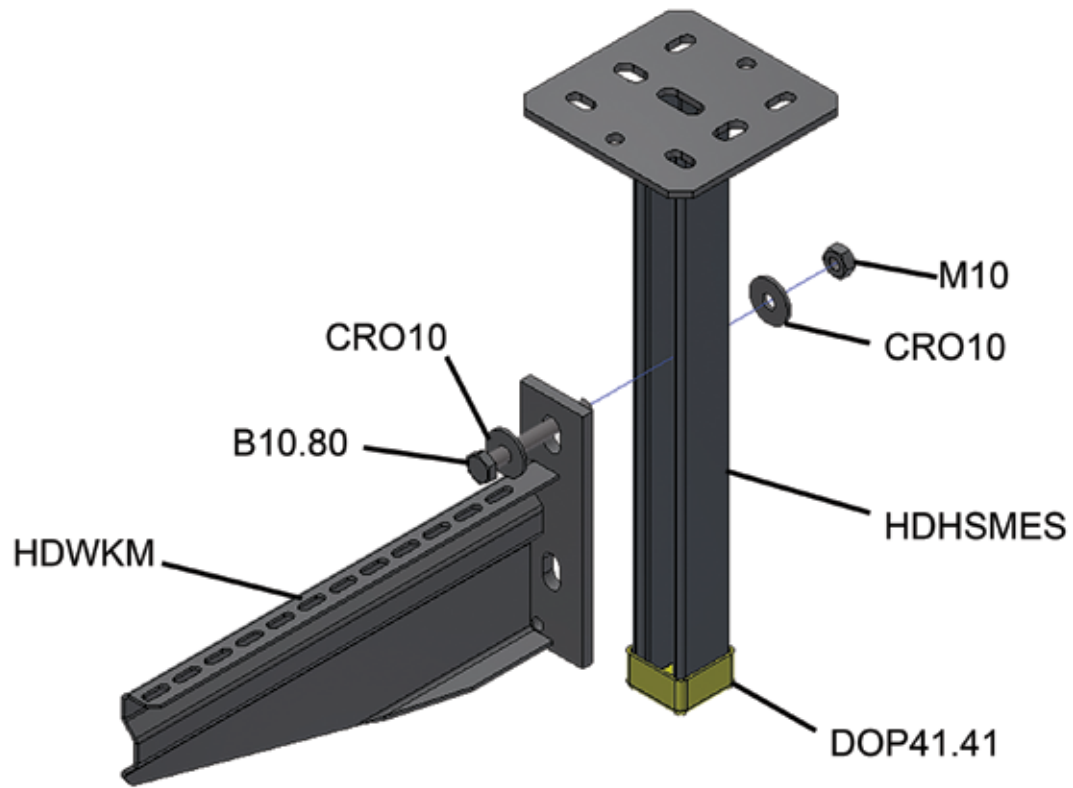
# HDWK

## Technical information



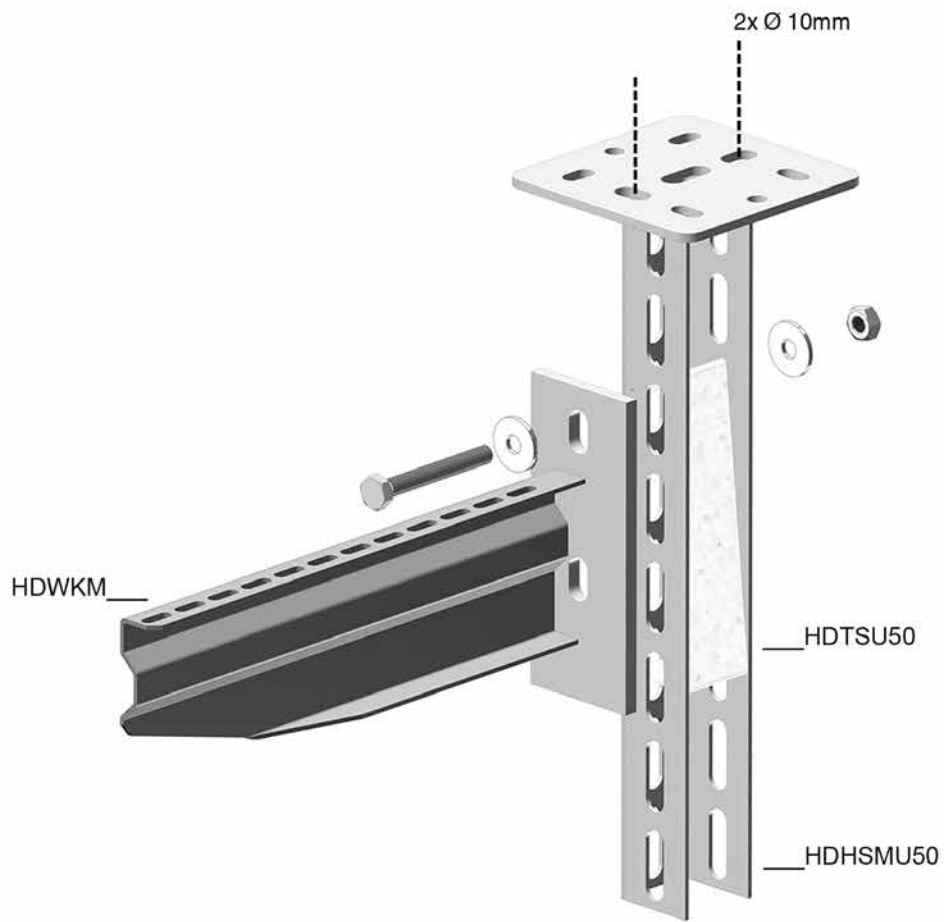
# HSMES

## Technical information



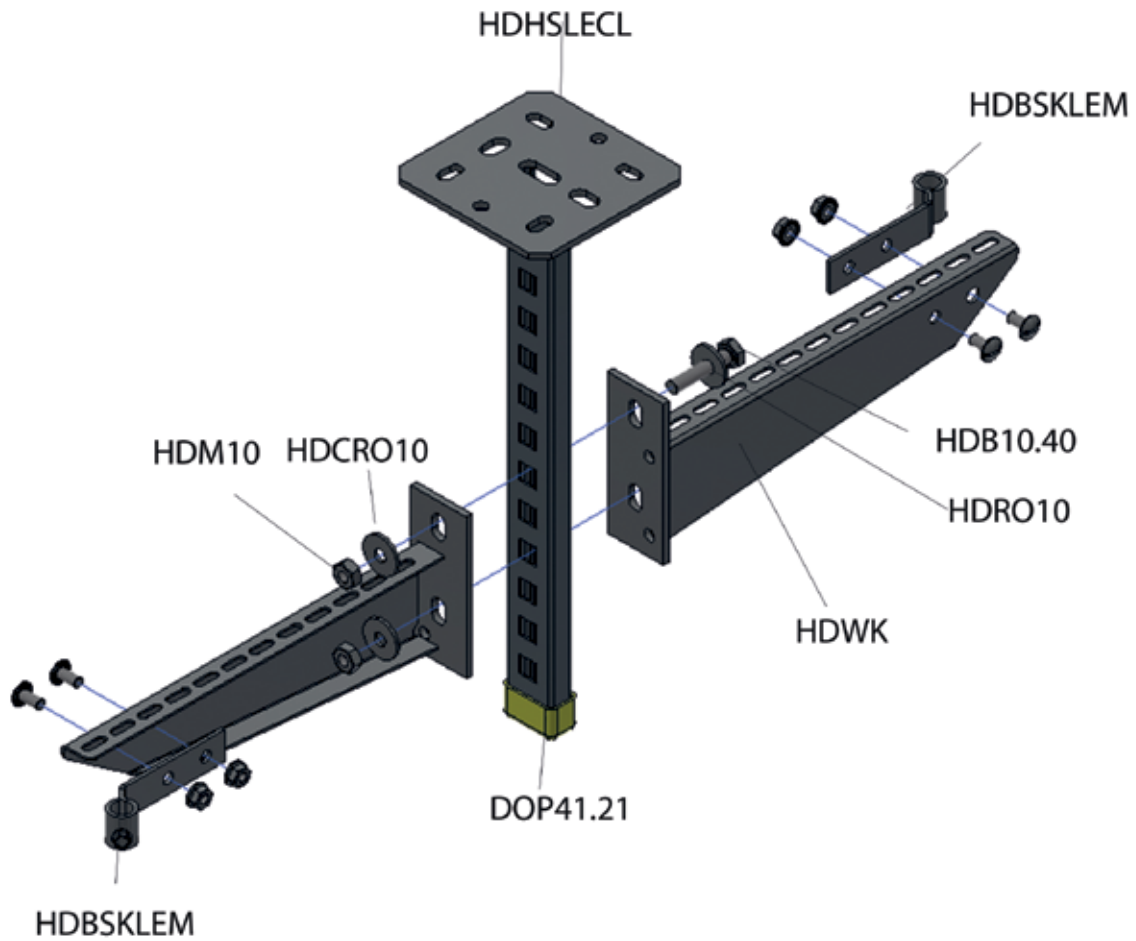
# HDHSMU50

## Technical information



# HDHSLECL

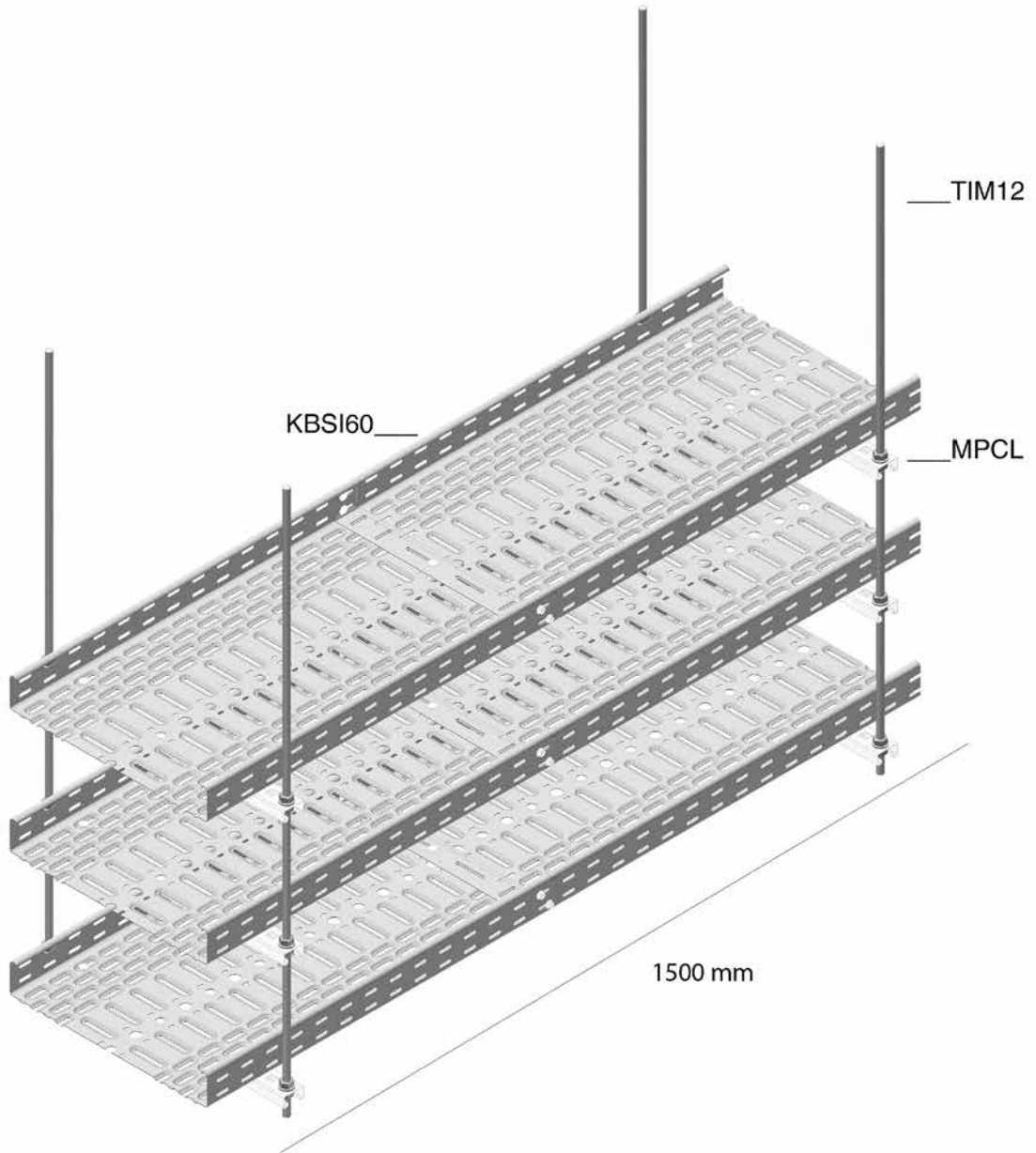
## Technical information





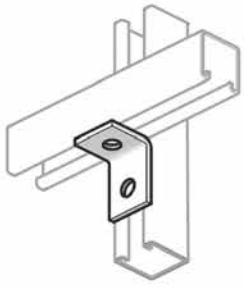
# MPCL41.21

## Technical information

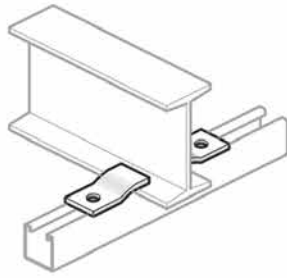


# HDVS41

## Technical information



HDVS41.05



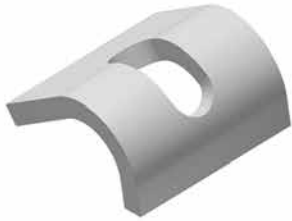
HDVS41.43



HDVS41.44



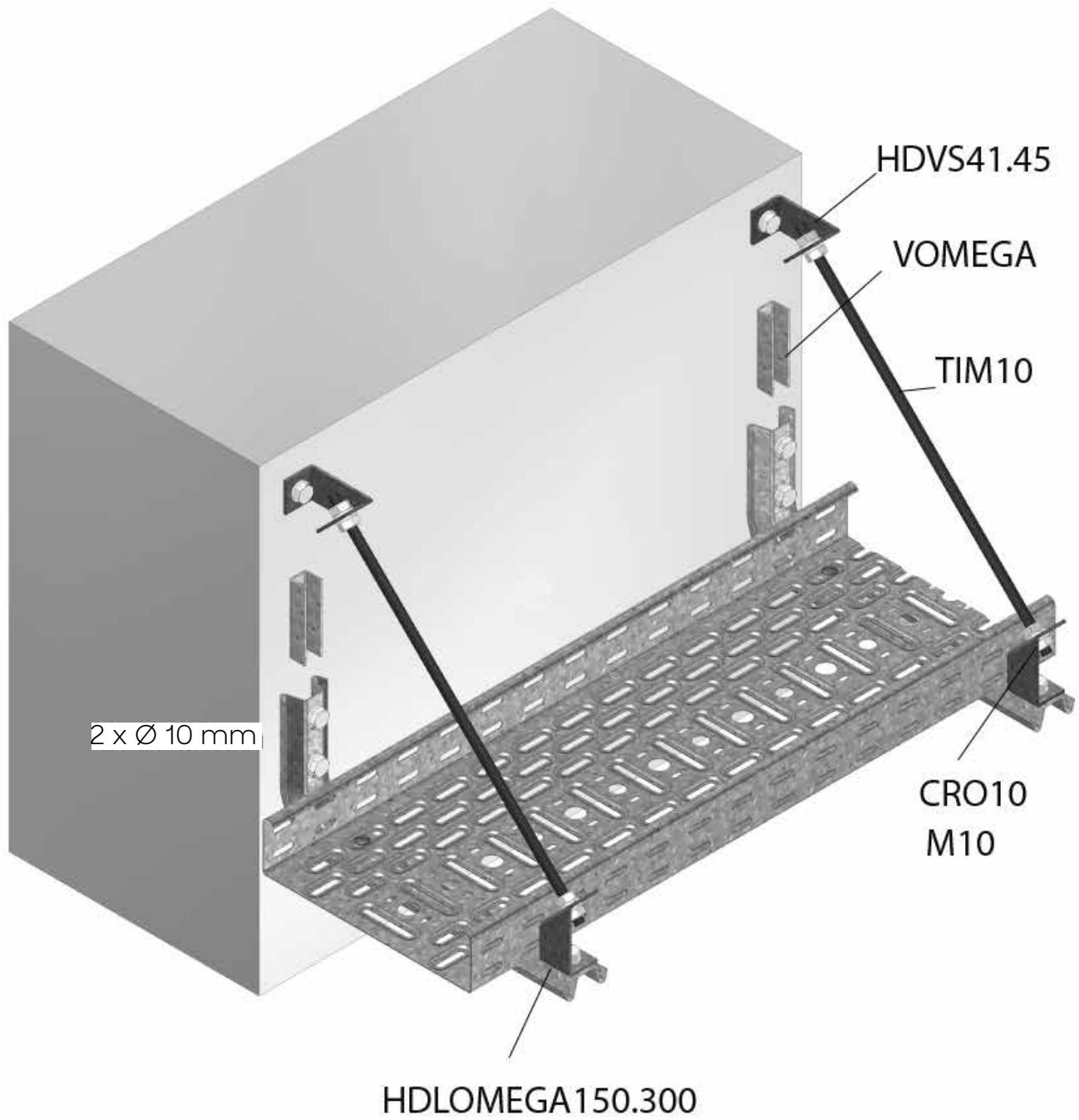
HDVS41.45



HDVS41.46

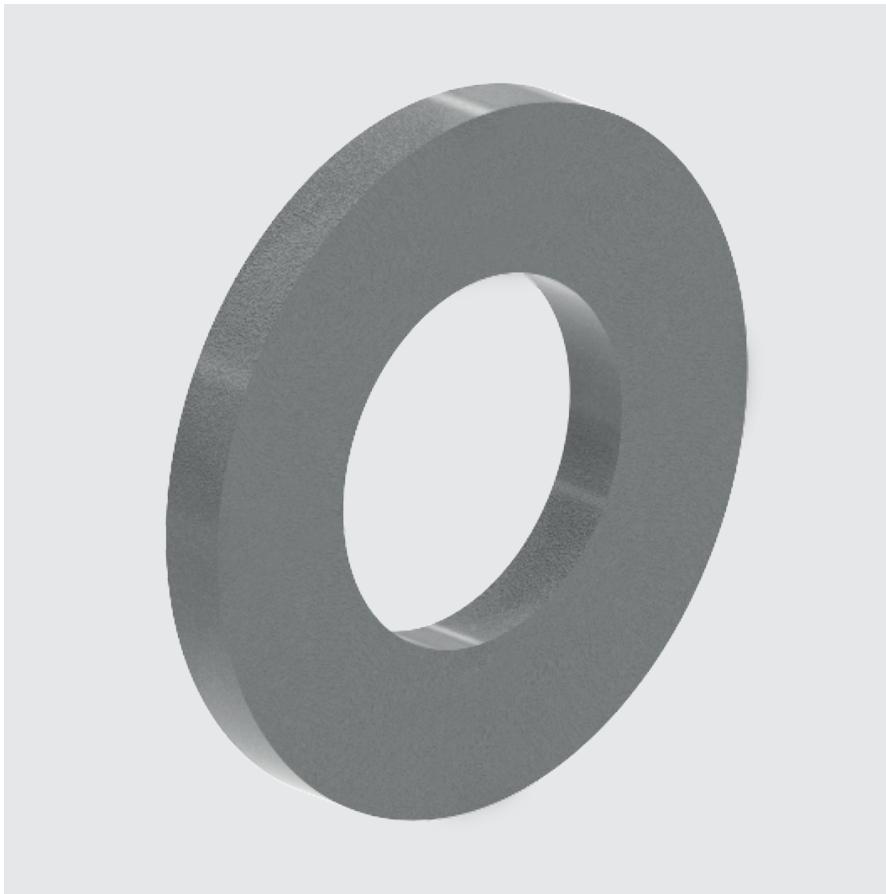
# HDVS41.45

## Technical information

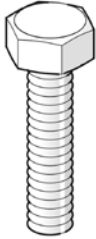




## 7 Fire-resistant systems



**Accessories**

**B****Bolt (DIN 933)**

Standard finish

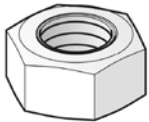
Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>B10.20</b>	-		M10	20	0.021	100	X	piece
HD	<b>B10.30</b>	-		M10	30	0.027	100	X	piece
HD	<b>B10.40</b>	-		M10	40	0.033	100	X	piece
HD	<b>B10.80</b>	-		M10	80	0.053	100	X	piece
HD	<b>B12.50</b>	-		M12	50	0.058	100	X	piece

To order per full packaging.

**M****Nut (DIN 934)**

Standard finish

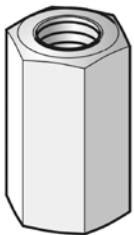
Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>M8</b>	-		M8	-	0.005	100	X	piece
HD	<b>M10</b>	-		M10	-	0.010	100	X	piece
HD	<b>M12</b>	-		M12	-	0.017	100	X	piece

To order per full packaging.

**VM6334****Coupling nut (DIN 6334)**

Standard finish

Electro zinc-plated

HD	Reference	↑ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>VM8</b>	24		M8	-	0.021	50	X	piece
-	<b>VM10</b>	30		M10	-	0.042	50	X	piece
-	<b>VM12</b>	36		M12	-	0.059	50	X	piece

To order per full packaging.

## VM

### Toothed round head bolt / flange nut



Standard finish

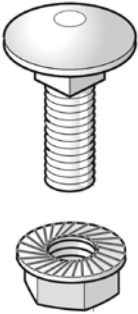
Electro zinc-plated

HD	Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>VM4.40</b>	-		M4	40	0.005	100	X	piece
HD	<b>VM6.10</b>	-		M6	10	0.008	100	X	piece
HD	<b>VM6.20</b>	-		M6	20	0.009	100	X	piece
-	<b>VM10.50</b>	-		M10	50	0.041	100	X	piece

To order per full packaging.  
According to DIN 50 961.

## VMK

### Round head square neck bolt / flange nut



Standard finish

Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>VMK6.10</b>	-		M6	-	0.009	100	X	piece

To order per full packaging.

## RO

### Giant washer (DIN 125-1 A)



Standard finish

Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↓ mm	↔ mm	→  ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>RO8</b>	-		M8	-	0.002	100	X	piece
HD	<b>RO10</b>	-		M10	-	0.004	100	X	piece
HD	<b>RO12</b>	-		M12	-	0.006	100	X	piece

To order per full packaging.

# CRO

## Flat giant washer (DIN 9021)



Standard finish

Electro zinc-plated

Optional finish

Hot-dip galvanised

HD	Reference	↕ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
HD	<b>CRO8</b>	-		M8	-	0.006	100	X	piece
HD	<b>CRO10</b>	-		M10	-	0.012	100	X	piece
HD	<b>CRO12</b>	-		M12	-	0.027	100	X	piece

To order per full packaging.

# BSTAG

## Identification label Fire-resistant Syst

specs\_

100



HD	Reference	↕ mm	↔ mm	→ ← mm	↔ mm	kg/ piece	📦	Stock	Unit
-	<b>BSTAG</b>	50	100		-	0.001	50	X	piece

To order per full packaging.