

# HODY® 60

## Composite steel floor decks

HODY® 60 Trapezium steel sheets have a modified trapezium-shaped profile with a height of 60 mm. The steel sheets are used to create “low” composite steel floor decks with a thickness over 100 mm. The optimised geometrics make it possible to design thin floor constructions with a large free span.

### Composite steel floor decks

The HODY® 60 Trapezium steel sheet is used as formwork and base reinforcement in HODY® composite steel floor decks. The profile creates an effective interaction between the steel sheet and the concrete. This means a limited amount of concrete and a minimum amount of mesh reinforcement can be used to create a thin and light composite steel floor deck. Composite steel floor decks are the ideal floor solution for new-build, conversion, renovation and redevelopment projects.

### Simple and fast installation

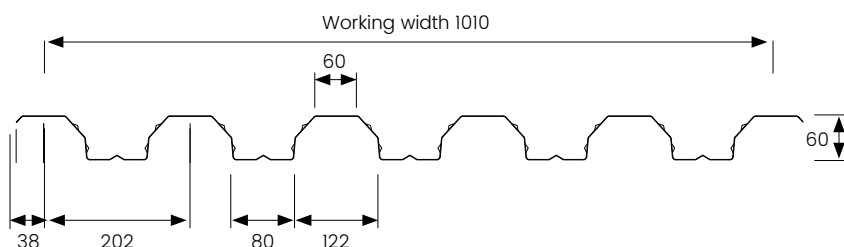
HODY® 60 Trapezium steel sheets have a low self weight, are easy to install without cranes and can be walked on immediately. It is thus possible to quickly create a safe work floor. Thanks to a working width of 1010 mm, the sheets are easy to use and allow floor areas to be quickly assembled.



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## Profile and dimensions (mm)



Thickness = 0.75 0.88 and 1.0 mm

maximum length 12.0 meters

## Service and advice

You may always contact our technical advisors with any questions during the design and implementation phase. They can offer extensive advice about using HODY® 60 composite steel floor decks in your project.

## Specification service

Specification descriptions for HODY® composite steel floor decks are available.

## Fire resistance

HODY® 60 composite steel floor decks offer fire resistance of at least 30 minutes. By using special HODY® reinforcement mesh in HODY® 60 Trapezium steel sheets, fire resistance can be increased to 60 minutes. Depending on the floor thickness, fire resistance of 120 minutes can be realised by using additional mesh reinforcements in the channels of the steel sheet.

## Calculation

We can also provide calculations and reinforcement drawings for HODY® composite steel floor decks.

## Advantages of HODY® 60 Trapezium steel sheets:

- Free span up to 9000 mm
- Simple and fast installation
- Efficient logistics to and on the construction site
- Unpropped span up to 3440 mm
- Detailing possible
- Thin, light weight floor construction
- Fire resistance  $\geq$  30-120 minutes
- Aesthetic appeal
- Available with polyester coating
- Available from stock

## Section properties per metre width

NORMAL THICKNESS (mm)	SELF WEIGHT		HEIGHT TO NEUTRAL AXIS	SECOND MOMENT OF AREA $\text{cm}^4/\text{m}$	STEEL AREA ( $\text{mm}^2/\text{m}$ )	ULTIMATE MOMENT CAPACITY ( $\text{kNm}/\text{m}$ )	
	( $\text{kg}/\text{m}^2$ )	( $\text{kN}/\text{m}^2$ )				Sagging	Hogging
0,75	8,74	0,087	29,0	52,05	998	4,4	4,37
0,88	10,25	0,103	29,0	63,77	1179	5,8	5,51
1,00	11,05	0,110	29,0	74,59	1349	7,1	6,56

Values in accordance with m and k method  $m = 176,8$ ,  $k = 0,0817$ . Shear stress capacity  $\tau_{Rd} = 0,1735 \text{ N}/\text{mm}^2$



### Design tables

The table below can be used to design HODY® 60 composite steel floor decks. You can always contact us for additional design advice, details about multiple span applications and information about HODY® 60 Trapezium sheets with a polyester coating.

### HODY® 60 steel thickness 0.75 mm - Maximum span [m]

FLOOR THICKNESS (mm)	SINGLE SPAN						DOUBLE SPAN					
	UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m <sup>2</sup> ]					UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m <sup>2</sup> ]				
		2,00	3,00	4,00	5,00	6,00		2,00	3,00	4,00	5,00	6,00
100	2,35	4,15	3,85	3,50	3,20	2,95	2,92	4,85	4,30	3,90	3,55	3,30
110	2,29	4,45	4,15	3,80	3,45	3,20	2,85	5,45	4,85	4,40	4,05	3,80
120	2,22	4,75	4,40	4,00	3,65	3,35	2,77	5,85	5,35	4,85	4,45	4,10
130	2,16	5,00	4,70	4,20	3,80	3,55	2,70	6,20	5,70	5,20	4,70	4,30
140	2,10	5,30	4,85	4,35	4,00	3,70	2,63	6,60	6,05	5,45	4,95	4,55
150	2,05	5,55	5,00	4,55	4,15	3,85	2,57	6,95	6,40	5,70	5,15	4,75
160	2,01	5,80	5,20	4,70	4,30	4,00	2,51	7,30	6,65	5,95	5,40	4,95
180	1,93	6,10	5,45	4,95	4,55	4,25	2,41	7,95	7,10	6,30	5,75	5,30
200	1,85	6,35	5,70	5,20	4,80	4,50	2,32	8,50	7,45	6,70	6,10	5,65



### HODY® 60 steel thickness 1.00 mm - Maximum span [m]

FLOOR THICKNESS (mm)	SINGLE SPAN $\Delta$ — $\Delta$						DOUBLE SPAN $\Delta$ — $\Delta$ — $\Delta$					
	UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m <sup>2</sup> ]					UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m <sup>2</sup> ]				
		2,00	3,00	4,00	5,00	6,00		2,00	3,00	4,00	5,00	6,00
100	2,87	4,30	4,00	3,75	3,55	3,35	3,44	4,85	4,30	3,90	3,55	3,30
110	2,82	4,65	4,30	4,05	3,85	3,60	3,39	5,45	4,85	4,40	4,05	3,80
120	2,76	4,90	4,60	4,35	4,10	3,80	3,33	6,00	5,35	4,85	4,50	4,20
130	2,71	5,20	4,85	4,60	4,30	4,00	3,28	6,45	5,95	5,50	5,10	4,75
140	2,66	5,50	5,15	4,90	4,50	4,20	3,23	6,85	6,30	5,75	5,35	5,00
150	2,61	5,75	5,40	5,10	4,70	4,35	3,18	7,20	6,55	6,00	5,60	5,25
160	2,57	6,00	5,70	5,30	4,85	4,50	3,11	7,55	7,00	6,60	6,05	5,55
180	2,49	6,55	6,10	5,60	5,15	4,80	2,98	8,25	7,70	7,05	6,45	5,95
200	2,42	7,05	6,40	5,85	5,40	5,05	2,86	8,80	8,10	7,45	6,80	6,30

### Volume and weight HODY® 60 composite steel decks

FLOOR THICKNESS (mm)	CONCRETE VOLUME LITERS [m <sup>2</sup> ]	WEIGHT (EXCL. STEEL DECK) [kN/m <sup>2</sup> ]
100	70	1,68
110	80	1,92
120	90	2,16
130	100	2,40
140	110	2,64
150	120	2,88
160	130	3,12
180	150	3,60
200	170	4,08

Weight concrete 24 kN/m<sup>3</sup>

- m = span in metres
- maximum span based on deflection of 1/180 L
- permissible load in kN/m<sup>2</sup> incl. finishing and excl. self weight
- concrete quality C20/25
- floor thickness excludes reinforcements, coincidental restraints, recesses, line loads, concentrated loads, etc.
- with additional reinforcement larger spans can be made



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