

HODY® 80

Composite steel floor deck

HODY® 80 Trapezium steel sheets are profiled sheets that are used to create “low” composite steel floor decks with a thickness over 130 mm. The optimised geometrics, and use of high-quality steel, make it possible to realise large spans up to 4450 mm without using temporary propping.

Composite steel floor decks

The HODY® 80 Trapezium steel sheet is used as formwork and base reinforcement for HODY® composite steel floor decks. The profile creates 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® 80 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 900 mm, the sheets are easy to use and allow floor areas to be quickly assembled.

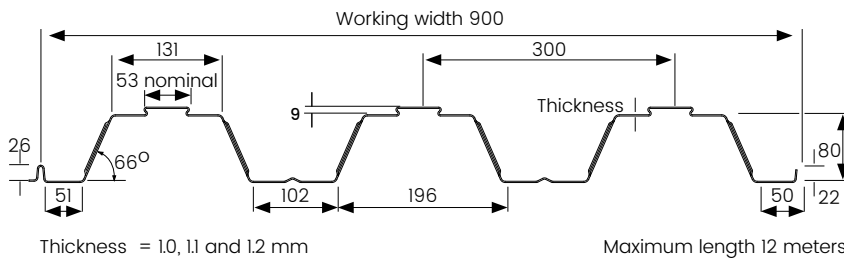


Pieter Zeemanweg 107
3316 GZ Dordrecht (NL)

+31 (0)78 617 44 00
reppel@reppel.nl
www.reppel.nl

HODY® 80 Composite steel floor deck

Profile and dimensions (mm)



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 HDY® 80 composite steel floor decks in your project.

Specification service

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

Fire resistance

HODY® 80 composite steel floor decks offer fire resistance of at least 30 minutes. Fire resistance can be increased to 60 minutes by using additional light mesh reinforcements in the channels of the steel sheet. Depending on the floor thickness, it is possible to realise fire resistance of 120 minutes.

Calculation

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

Advantages of HDY® 80 Trapezium steel sheets:

- Free span up to 9000 mm
- Simple and fast installation
- Efficient logistics to and on the construction site
- Large unpropped span up to 4450 mm
- Detailing possible
- Relatively lightweight floor construction
- Fire resistance \geq 30-120 minutes
- Aesthetic appeal
- Available from stock

Section properties per metre width

NORMAL THICKNESS (mm)	SELF WEIGHT		HEIGHT TO NEUTRAL AXIS	SECOND MOMENT OF AREA cm^4/m	STEEL AREA (mm^2/m)	ULTIMATE MOMENT CAPACITY (kNm/m)	
	(kg/m^2)	(kN/m^2)				Sagging	Hogging
1,00	11,49	0,113	42,50 mm	171,3	1413,00	12,62	9,94
1,10	12,64	0,124	43,10 mm	190,6	1560,00	14,39	11,33
1,20	13,83	0,136	45,00 mm	208,6	1705,33	16,42	12,73

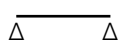
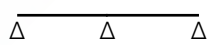
Values in accordance with m and k method $m = 135$, $k = 0.032$



Design tables

The table below can be used to design HODY® 80 composite steel floor decks. You can always contact us for additional design advice, details about multiple span applications and information about HODY® 80 Trapezium sheets steel thickness 1.10 mm and 1.50 mm.

HODY® 80 steel thickness 1.00 mm - Maximum span [m]

FLOOR THICKNESS (mm)	SINGLE SPAN 						DOUBLE SPAN 					
	UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m²]					UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m²]				
		2,00	3,00	4,00	5,00	6,00		2,00	3,00	4,00	5,00	6,00
130	3,35	4,75	4,20	3,75	3,45	3,15	3,75	4,30	3,80	3,45	3,30	3,00
140	3,25	4,90	4,35	3,90	3,60	3,35	3,65	4,80	4,30	3,90	3,60	3,40
150	3,20	5,05	4,50	4,05	3,75	3,50	3,60	5,30	4,75	4,35	4,00	3,80
160	3,15	5,15	4,60	4,20	3,85	3,60	3,55	5,90	5,35	4,90	4,55	4,30
180	3,05	5,35	4,85	4,40	4,10	3,85	3,40	6,85	6,05	5,45	5,00	4,45
200	2,95	5,55	5,00	4,60	4,30	4,05	3,30	7,10	6,30	5,70	5,30	4,90
220	2,85	5,70	5,20	4,80	4,45	4,20	3,20	7,35	6,55	5,95	5,50	5,15
240	2,80	5,85	5,35	4,95	4,65	4,35	3,15	7,60	6,75	6,20	5,75	5,40



HODY® 80 steel thickness 1,20 mm - Maximum span [m]

FLOOR THICKNESS (mm)	SINGLE SPAN $\overline{\Delta \quad \Delta}$						DOUBLE SPAN $\overline{\Delta \quad \Delta \quad \Delta}$					
	UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m ²]					UNPROPPED (m)	LOAD (EXCL. FLOOR) [kN/m ²]				
		2,00	3,00	4,00	5,00	6,00		2,00	3,00	4,00	5,00	6,00
130	3,60	5,15	4,55	4,10	3,75	3,50	4,05	4,30	3,80	3,45	3,30	3,00
140	3,55	5,35	4,70	4,30	3,95	3,65	3,95	4,80	4,30	3,90	3,60	3,40
150	3,45	5,50	4,90	4,45	4,10	3,80	3,90	5,30	4,75	4,35	4,00	3,80
160	3,40	5,60	5,00	4,60	4,25	3,95	3,80	5,90	5,35	4,90	4,55	4,30
180	3,30	5,85	5,25	4,85	4,50	4,20	3,70	6,95	6,30	5,80	5,40	5,05
200	3,20	6,05	5,50	5,05	4,70	4,40	3,60	7,70	6,85	6,20	5,80	5,35
220	3,10	6,25	5,65	5,25	4,90	4,56	3,50	7,95	7,10	6,50	6,00	5,60
240	3,00	6,35	5,80	5,40	5,05	4,75	3,40	8,15	7,35	6,70	6,25	5,85

Volume and weight HODY® 80 composite steel decks

FLOOR THICKNESS (mm)	CONCRETE VOLUME LITERS [m ³]	WEIGHT (EXCL. STEEL DECK) [kN/M ²]
130	86	2,06
140	96	2,30
150	106	2,54
160	116	2,78
180	136	3,26
200	156	3,74
220	176	4,22
240	196	4,70

Weight concrete 24 kN/m³

- m = span in meters
- maximum span based on deflection of 1/180 L
- permissible load in kN/m² 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



Pieter Zeemanweg 107
3316 GZ Dordrecht (NL)

+31 (0)78 617 44 00
reppel@reppel.nl
www.reppel.nl