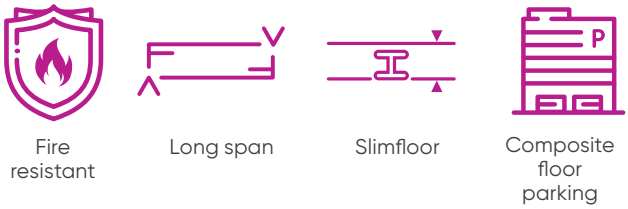
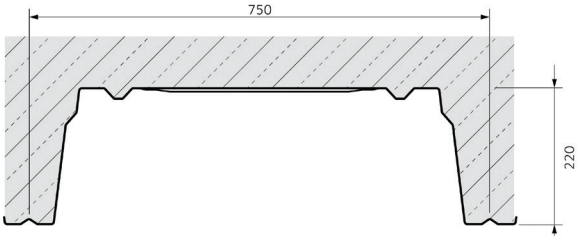
Cofraplus® 220

Long span floor decking

Quick and easy to install, our additive floor Cofraplus® 220 provides an optimised solution for long span applications such as tertiary sectors or multi-storey building. As it can easily reach spans up to 5 m without props, Cofraplus® 220 is particularly adapted to car park project.
A range of support accessories makes it easy to optimise the height of the slab and beam as required and ArcelorMittal Construction's organic coatings offer a large choice of colours.



Fire resistant | Long span | Slimfloor | Composite floor parking



CE marking according to EN 1090-1
French technical approval: DTA 3.1/17-927_V3
German technical approval: AbZ Z-26.1-55

Characteristics of the base material		Norms
Steel grade	S 350 GD	EN 10346
Corrosion protection	Galvanised steel ZM 175	P 34-310 ETPM ZMevolution® or AbZ Z-30.11-61
	Galvanised steel ZM 175 with organic coating	P 34-301 EN 10169+A1
Organic coating		**Norms**
Hairplus® 25	Category CP13	P 34-310
		EN 10169+A1
Other coatings	On demand	

Characteristics	Nominal thickness of the profile sheet [mm]	
	1,13	1,25
Weight [kg / m²]	15,14	16,75
Cross section A_p: [mm² / m]	1 817	2 017
Effective inertia I_{eff} [cm⁴ / m]	926	1063
Height of neutral axis [mm]	159,90	159,90
Modulus of inertia [cm³ / m]	57,91	66,48

Possibility of bridging large spans
- Up to 5,5 m without props
- Up to 8,5 m with props

Considerable flexibility in use: the profile's lightness (12,5 kg / ml) makes it easy to handle, thus reducing the costs of lifting devices for installation.

Compatibility with steel, concrete or timber frame for better adaptability.

Nominal concrete consumption

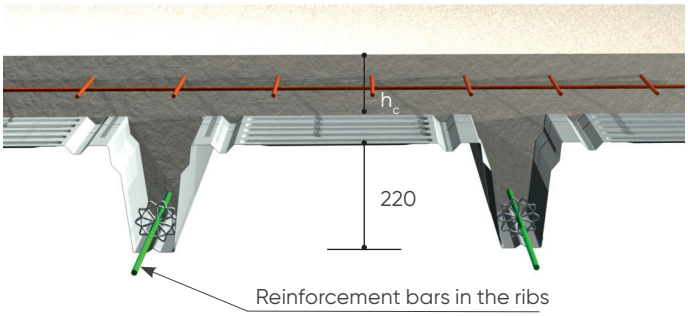
	Thickness of the slab [cm]							
	80	90	100	110	120	130	140	150
Concrete volume [l / m²]	117	127	137	147	157	167	177	187
Theoretical weight* of the composite slab [kg / m²]	308	333	358	383	408	433	458	483

Concrete density 2500 kg / m³
Maximum recommended slab thickness d = 20 cm
*Additional weight du to pounding effect is not included

Fire resistance

	REI [min]			
	30	60	90	120
h_c mini [cm]	8	8	10	12

The section of reinforcement get calculated according the project specifications.
A specific calculation note for a pre-design will be communicated by our consultant engineers.



Structural performance

Load / Span table

The value provided in each cell of the table loads is the maximum live load capacity Q (kN / m²), with no safety factor.
The self weight of the slab is already included.
The color of each cell give information about the required steel thickness.
Our engineering design office will be able to refine these indications based on the detailed specifications of your project

Single span L

Thickness of the slab [cm]	Span [m]																				
	5,00	5,10	5,20	5,30	5,40	5,50	5,60	5,70	5,80	5,90	6,00	6,20	6,40	6,60	6,80	7,00	7,20	7,40	7,60	7,80	8,00
15	7,38	6,39	6,37	6,34	6,32	7,12	7,37	6,97	6,58	6,21	5,86	8,09	7,33	6,63	5,55	5	7,72	7,45	6,84	6,27	5,75
14	7,43	6,95	6,44	6,42	6,4	7,93	6,74	6,37	6,62	6,26	5,92	8,06	7,31	6,63	6,01	5,03	7,65	7,03	6,8	6,25	5,73
13	7,47	7	6,56	6,5	6,48	7,96	7,93	6,4	6,05	5,72	5,4	8,04	7,3	6,63	6,03	5,47	7,98	6,97	6,41	5,89	5,72
12	7,52	7,06	6,62	5,84	6,56	7,99	7,97	7,94	6,09	5,76	5,45	7,48	7,29	6,64	6,04	5,49	7,91	7,29	6,37	5,87	5,4
11	7,57	7,12	6,69	5,91	5,89	8,02	8	7,98	7,95	5,81	5,5	7,45	6,78	6,17	6,06	5,52	7,84	7,24	6,68	6,17	5,38
10	7,62	7,18	6,75	5,99	5,97	7,31	8,03	8,01	7,99	7,96	5,56	7,42	6,77	6,17	5,63	5,55	7,77	7,19	6,65	6,15	5,69
9	7,67	7,23	6,82	6,07	6,05	7,34	7,32	7,29	8,02	8	7,97	7,39	6,75	6,17	5,64	5,16	7,31	7,13	6,61	6,13	5,67
8	7,72	7,29	6,89	6,15	6,14	7,37	7,35	7,33	7,31	8,03	8,01	7,96	6,74	6,18	5,67	5,19	7,25	6,71	6,57	6,1	5,66
Steel reinforcement per rib	1 HA 14					1 HA16						1 HA20						1 HA25			
	Without propping												With propping								

Multiple spans L1 L2 with L1 = L2 and internal width support 100mm

Thickness of the slab [cm]	Span [m]																				
	5,00	5,10	5,20	5,30	5,40	5,50	5,60	5,70	5,80	5,90	6,00	6,20	6,40	6,60	6,80	7,00	7,20	7,40	7,60	7,80	8,00
15	11,54	11,46	10,83	10,23	9,66	9,49	8,98	8,52	8,08	7,66	7,27	10,48	9,57	8,74	7,99	7,3	6,66	6,06	5,52	5,02	4,56
14	11,49	10,89	10,55	9,97	9,42	8,9	8,78	8,33	7,89	7,49	7,1	10,16	9,28	8,49	7,76	7,1	6,49	5,93	5,39	4,91	4,46
13	11,44	10,84	10,25	9,71	9,18	8,68	8,2	8,11	7,71	7,32	6,95	9,85	9	8,23	7,53	6,89	6,3	5,77	5,27	4,81	4,36
12	11,15	10,55	9,98	9,43	8,94	8,46	7,99	7,55	7,52	7,15	6,79	9,55	8,72	7,98	7,31	6,69	6,12	5,6	5,14	4,69	4,28
11	10,83	10,25	9,7	9,18	8,68	8,24	7,79	7,37	7,33	6,97	6,63	9,24	8,46	7,75	7,09	6,49	5,95	5,45	4,99	4,56	4,19
10	10,51	9,95	9,42	8,92	8,45	8	7,57	7,18	7,14	6,42	6,46	8,92	8,18	7,5	6,88	6,3	5,78	5,3	4,86	4,45	4,07
9	10,19	9,65	9,15	8,67	8,21	7,78	7,37	6,97	6,95	6,27	5,93	8,61	7,9	7,25	6,66	6,11	5,62	5,14	4,72	4,33	3,97
8	9,87	9,36	8,87	8,41	7,98	7,56	7,17	6,79	6,43	6,12	5,79	7,9	7,62	7	6,43	5,92	5,44	5,01	4,6	4,22	3,88
Steel reinforcement per rib	1 HA14					1 HA16						1 HA20						1 HA25			
	503mm² / ml on support												760mm² / ml on support								
	Without propping												With propping								

Key	Thickness [mm]
Installation without propping	1,13
	1,25
With 2 props	1,13
	1,25
With 3 props	1,13
	1,25

Assumptions

- Concrete C25 / 30 (density: 25 kN / m³)
- Fire resistance REI30
- Deflection while pouring L / 180
- Deflection in service L / 350 if L < 3.5 m or (0.5 cm + L / 700) if L > 3.5 m
- Materials safety factors : yM=1.0, yC=1.5, yS=1.15
- Construction loads according to EN 1991-1-6 (Qca = 0,75 kN / m², Qcf = 0,75 kN / m²)