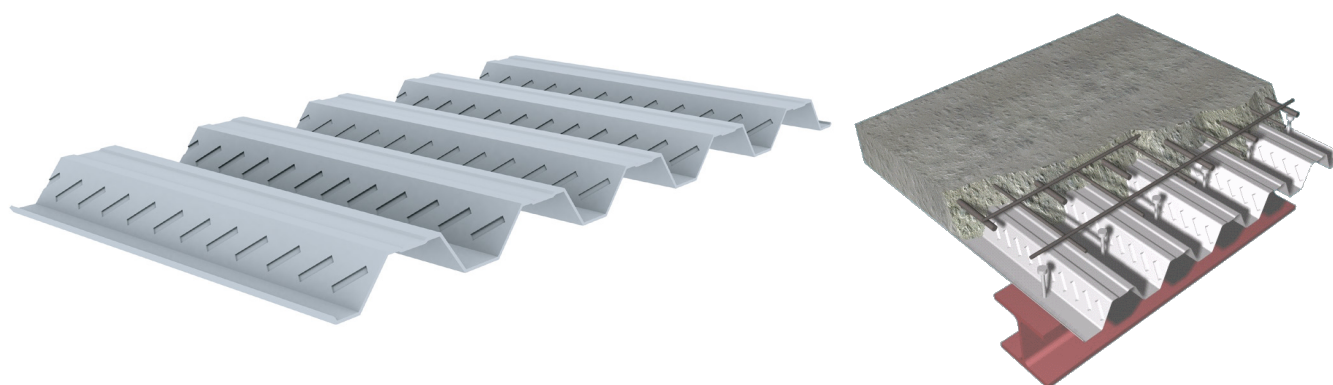




TZ-60 F

PROFILED SHEET FOR COMPOSITE SLAB



- Certified high-quality, cold-shaped, ribbed structural steel sheet profile.
- Ideal for use in composite concrete-steel slabs or as non-recoverable formwork in concrete composite slabs.
- Useful width of 0.82 m with overlap and manufactured length of up to 12.8 m.
- Spans of up to 5.0 m and loads of up to 3,180 kg/m².
- Composite slabs with fire resistance up to REI (120 min)
- Product certified according to EN 1090 and EN 10346.



TECZONE

TZ-60 F

DESCRIPTION AND APPLICATIONS

Cold-formed S320GD structural steel sheet ribbed profile. Certified and guaranteed Minimum yield strength of 320 N/mm².

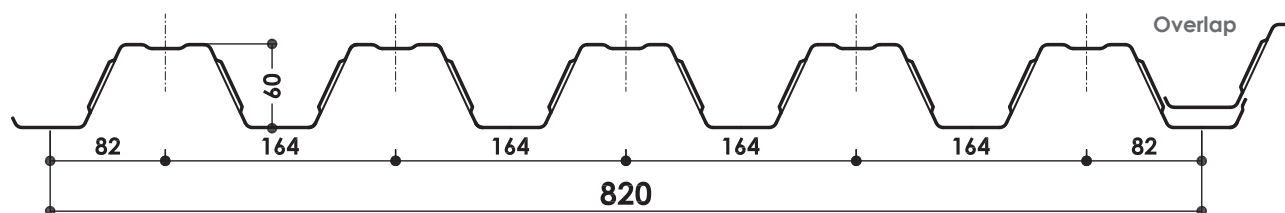
Three thicknesses are available: 0.8, 1.0 and 1.2 mm.

Composite floor slabs: Floor slabs for industrial, residential and commercial building. Support spans of up to 5 m can be attained, depending on loads.

Non-recoverable formwork: The TZ-60 F profile can also be employed as non-recoverable formwork in concrete slabs, reducing the amount of required shoring because of its high strength.



PRODUCT DATA



Useful width		820 mm		
Maximum production length		12.8 m		
Type of steel		S320 GD		
Thicknesses	0.80	1.00	1.20	mm
Self-weight	9.57	11.96	14.36	kg/m ²
	7.85	9.81	11.78	kg/ml
Coating		Galvanised Z275		

TZ-60 F profile certifications

CE marking according to the new European regulation EN 1090-1:2009+A1:2011, specific for metal structure manufacture and execution.

Steel sheet certifications

Steel employed according to EN 10346 standard.



TZ-60 F

CONSTRUCTION DETAILS

The steel profiles packets will be distributed in accordance with works marking out and coinciding on the main structural beams.

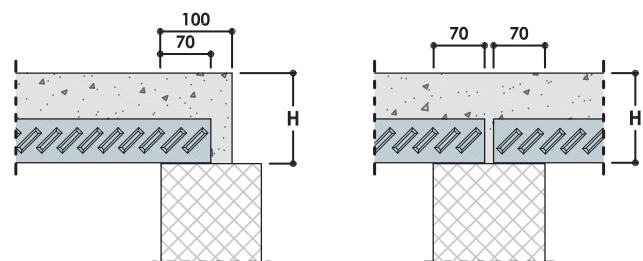
The TZ-60 F profiles have a single installation position for application in concrete floors just as shown in the profile section.

The fastening of the steel profiles to the steel beams may be executed directly using either screws or nails. When the beams are made of concrete or a material other than steel, it is recommended to anchor steel plates to such beams. All steel profiles on all the supports must be laid with a minimum density of two fasteners per support and profile. Longitudinal fastenings must be executed every 50/100 cm. The profiles will be fastened as they are installed on the support beams.

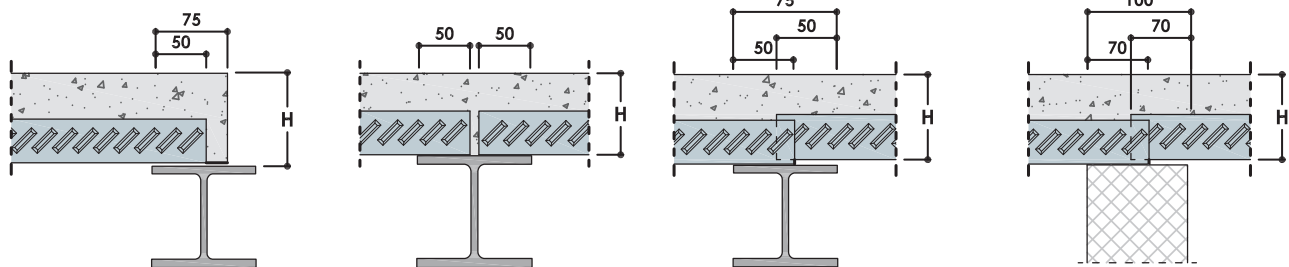
Before commencing concreting, the profiles must be free of dirt and grease, etc. Therefore, when necessary, they will be washed and degreased.

Concrete pouring will be easier if performed by pumping because this is the fastest execution method. This pouring will be made in the support beam area, avoiding concrete concentrations and reducing pouring height from the piping to the framework to no more than 40 cm (at the height of the workers' knees).

The framework resting on beams made of other materials must have a minimum support of 100 mm (70 mm per side in areas of continuity):

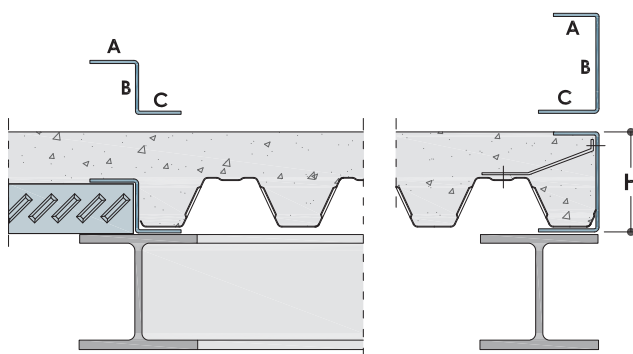


The framework supported on steel or concrete beams must have a minimum support of 75 mm (50 mm per side in areas of continuity):



For superimposed plates resting on steel or concrete, the minimum support will be 75 mm. In the case of other materials, the minimum support will be 100 mm:

ACCESSORIES



FINISHES	DIRECTION CHANGE	LATERAL CLOSURE
H (cm)	10-12-14-16-18-20	10-12-14-16-18-20
A (mm)	70	25
B (mm)	60	100-120-140-160-180-200
C (mm)	70	125-105-148-128-108
Transv. lenght	200	250-333
Lenght	4500	4500
Material	Steel thk=1mm, galvanised Z275 (EN 10346)	

TZ-60 F

LOAD TABLE - MAXIMUM LIVE LOADS AND PROPPING

SIMPLY SUPPORTED				MAXIMUM DESIGN LOADS (FACTORED) (kN/m ²)										
Height (H)	thk (mm)	DISTANCE BETWEEN SUPPORTS (m)												
		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
10 cm	0.80	12.40	10.50	7.20	4.90	3.30	2.10	1.20						
	1.00	13.05	11.35	8.10	5.60	3.80	2.50	1.60						
	1.20	13.05	11.40	9.00	6.20	4.30	2.90	1.80	1.10					
12 cm	0.80	14.30	12.50	11.00	9.10	4.50	3.00	1.90	1.00					
	1.00	15.80	13.70	12.10	10.50	7.40	5.30	3.70	2.40	1.50				
	1.20	16.95	14.75	12.90	11.55	8.40	6.00	4.20	2.90	1.80	1.00			
14 cm	0.80	16.10	14.00	12.30	10.90	9.70	7.80	5.60	3.90	2.60	1.60			
	1.00	17.80	15.40	13.60	12.10	10.80	9.10	6.60	4.70	3.30	2.10	1.20		
	1.20	19.30	16.80	14.80	13.10	11.80	10.40	7.60	5.50	3.90	2.60	1.60		
16 cm	0.80	17.80	15.40	13.50	11.90	10.60	9.50	8.60	6.70	4.80	3.30	1.90		
	1.00	19.60	17.00	14.90	13.20	11.80	10.60	9.60	7.80	5.70	4.10	2.80	1.70	
	1.20	21.30	18.50	16.20	14.40	12.90	11.60	10.50	8.90	6.60	4.80	3.40	2.20	1.30
18 cm	0.80	19.30	16.70	14.60	12.90	11.40	10.20	9.20	8.30	7.50	5.50	3.90	2.60	1.50
	1.00	21.30	18.50	16.20	14.30	12.70	11.40	10.30	9.30	8.40	6.60	4.80	3.40	2.20
	1.20	23.20	20.10	17.60	15.60	13.90	12.50	11.30	10.20	9.30	7.60	5.70	4.10	2.58
20 cm	0.80	20.80	17.90	15.60	13.80	12.20	10.90	9.80	8.80	7.90	7.20	5.90	4.40	3.00
	1.00	22.90	19.80	17.30	15.30	13.60	12.20	10.90	9.90	8.90	8.10	7.30	5.50	3.90
	1.20	24.90	21.60	18.90	16.70	14.90	13.40	12.00	10.90	9.90	9.00	8.20	6.40	4.70

NOTES:

Maximum admissible deflection:

Service state: L/350

Concreting stage: L/240

Support length considered

in calculations: 100 mm

Materials:

Concrete HA-25

Reinforcement B500T

CONSIDERATIONS ON THE USE OF THESE TABLES:

Tables based on tests run in the University of Navarra. The values shown in the table are factored loads, which should be compared with the design loads (factored) in each project.

Tables valid only for pre-dimensioning. The project manager must make the structural calculation according to the applicable standard in each country. Kingspan expressly declines any responsibility arising from the use of these tables.

Kingspan provides its clients with a free calculation and sizing service for mixed framework, according to each client's requirements, using its own software (according to the national E.H.E. standard and European standard Eurocode 4).

With intermediate propping in the centre of the span, with a minimum support of 80 mm.

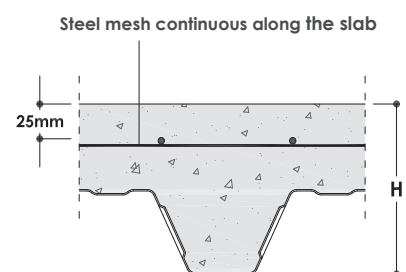
With two intermediate props distributed along the span, with a minimum support of 80 mm.

TZ-60 F

DESIGN TABLE - REINFORCEMENT

SIMPLY SUPPORTED		REINFORCEMENT REQUIRED (cm ² /m)												
		DISTANCE BETWEEN SUPPORTS (m)												
Height (H)	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
10 cm	0.80	0.98	0.98	0.98	0.98	0.98	0.98	0.98						
	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.98						
	1.20	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98					
12 cm	0.80	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98					
	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98				
	1.20	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
14 cm	0.80	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13			
	1.00	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13		
	1.20	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	
16 cm	0.80	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01		
	1.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	
	1.20	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
18 cm	0.80	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	1.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	1.20	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
20 cm	0.80	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	1.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	1.20	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01

ELECTROWELDED MESH	REINFORCEMENT AREA (cm ² /m)	BAR REINFORCEMENT	REINFORCEMENT AREA (cm ² /m)			
ME 350x350 Ø6x6	0.81		Ø6	Ø8	Ø10	Ø12
ME 300x300 Ø6x6	0.94	Sep. 350 mm	0.63	1.13	1.76	2.54
ME 200x200 Ø6x6	1.41	Sep. 300 mm	0.74	1.32	2.06	2.96
ME 150x150 Ø6x6	1.88	Sep. 200 mm	1.11	1.98	3.09	4.44
ME 200x200 Ø8x8	2.51	Sep. 150 mm	1.48	2.63	4.11	5.92
ME 150x150 Ø8x8	3.35					
ME 200x200 Ø10x10	3.93					
ME 150x150 Ø10x10	5.24					

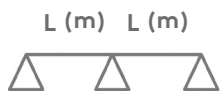


SLAB HEIGHT H (cm)						
	10	12	14	16	18	20
Maximum separation between bars (mm)	200	240	280	320	350	350

TZ-60 F

LOAD TABLE - MAXIMUM LIVE LOADS AND PROPPING

TWO
SPANS



MAXIMUM DESIGN LOADS (FACTORED) (kN/m²)

Height (H)	thk (mm)	DISTANCE BETWEEN SUPPORTS (m)												
		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
10 cm	0.80	15.80	13.80	10.95	8.30	6.10	4.50	3.30	2.40	1.70	1.20			
	1.00	17.35	15.10	12.60	9.20	6.80	5.00	3.70	2.70	2.00	1.40			
	1.20	17.25	15.10	13.40	10.10	7.50	5.60	4.20	3.10	2.30	1.60	1.10		
12 cm	0.80	18.00	16.00	14.10	11.30	9.15	7.50	6.10	4.60	3.50	2.60	1.90	1.40	
	1.00	20.20	17.70	15.70	14.00	11.75	9.20	7.00	5.30	4.00	3.00	2.20	1.60	1.10
	1.20	22.10	19.30	17.10	15.30	13.40	10.30	7.90	6.00	4.60	3.50	2.60	1.90	1.30
14 cm	0.80	20.50	17.90	15.80	13.80	11.15	9.10	7.45	6.10	5.05	4.15	3.35	2.70	2.00
	1.00	22.70	19.80	17.50	15.60	14.10	11.95	9.90	8.15	6.90	5.40	4.10	3.10	2.30
	1.20	24.70	21.60	19.10	17.10	15.40	14.00	12.25	10.10	7.90	6.10	4.80	3.70	2.80
16 cm	0.80	22.60	19.70	17.40	15.50	13.30	10.75	8.80	7.25	6.00	4.80	3.95	3.15	2.45
	1.00	25.00	21.80	19.20	17.10	15.40	13.90	11.65	9.75	8.10	6.75	5.70	4.75	3.95
	1.20	27.20	23.70	21.00	18.70	16.80	15.30	13.90	12.25	10.35	8.70	7.30	6.00	4.70
18 cm	0.80	24.60	21.40	18.80	16.70	15.00	12.45	10.15	8.40	6.85	5.55	4.60	3.60	2.80
	1.00	27.10	23.60	20.80	18.50	16.60	15.00	13.45	11.20	9.45	7.80	6.55	5.50	4.55
	1.20	29.50	25.80	22.70	20.30	18.20	16.50	15.00	13.70	11.90	10.00	8.55	7.15	6.10
20 cm	0.80	26.40	23.00	20.20	17.90	16.00	14.10	11.60	9.45	7.80	6.30	5.15	4.20	3.20
	1.00	29.20	25.40	22.40	19.90	17.80	16.00	14.50	12.75	10.60	8.95	7.35	6.10	5.05
	1.20	31.80	27.70	24.40	21.70	19.50	17.60	16.00	14.60	13.30	11.45	9.65	8.25	6.85

NOTES:

Maximum admissible deflection:

Service state: L/350

Concreting stage: L/240

Support lenght considered

in calculations: 100 mm

Materials:

Concrete HA-25

Reinforcement B500T

With intermediate propping in the centre of the span, with a minimum support of 80 mm.

With two intermediate props distributed along the span, with a minimum support of 80 mm.

CONSIDERATIONS ON THE USE OF THESE TABLES:

Tables based on tests run in the University of Navarra. The values shown in the table are factored loads, which should be compared with the design loads (factored) in each project.

Tables valid only for pre-dimensioning. The project manager must make the structural calculation according to the applicable standard in each country. Kingspan expressly declines any responsibility arising from the use of these tables.

In the case of a continuous slab is calculated as single span sections, an upper reinforcement of 0,2% should be provided for non-propped construction, and 0,4% for propped construction.

Kingspan provides its clients with a free calculation and sizing service for mixed framework, according to each client's requirements, using its own software (according to the national E.H.E. standard and European standard Eurocode 4).

TZ-60 F

DESIGN TABLE - REINFORCEMENT

TWO
SPANS

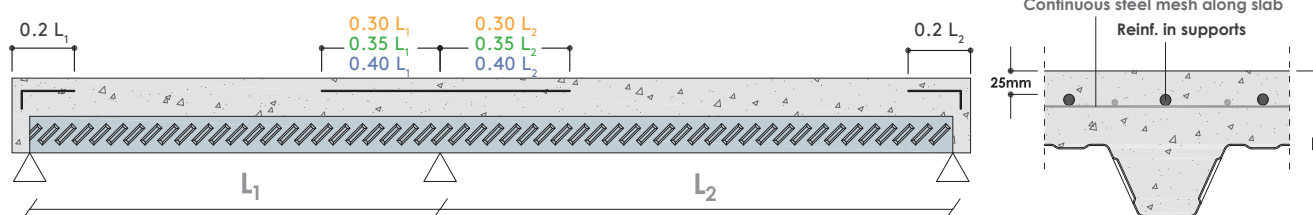


REINFORCEMENT REQUIRED (cm²/m)

		DISTANCE BETWEEN SUPPORTS (m)													
Height (H)	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	
10 cm	0.80	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51				
	1.00	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51				
	1.20	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51			
12 cm	0.80	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51		
	1.00	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	
	1.20	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 2.51	0.98 2.51	0.98 2.51	
14 cm	0.80	1.13 2.01	1.13 2.01	1.13 2.01	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	
	1.00	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 4.52	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	
	1.20	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 4.52	1.13 3.14	1.13 3.14	
16 cm	0.80	2.01 1.13	2.01 1.13	2.01 1.13	2.01 1.13	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	
	1.20	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	
18 cm	0.80	2.01 1.13	2.01 1.13	2.01 1.13	2.01 1.13	2.01 1.13	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	
	1.20	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	
20 cm	0.80	2.01 0.79	2.01 1.13	2.01 1.13	2.01 1.13	2.01 1.13	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	
	1.20	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	

Additional reinforcement area (cm²/m) in support area (length according to colour, following diagram)

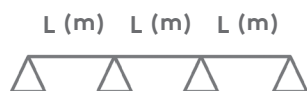
Reinforcement area (cm²/m) continuous along the whole slab (steel mesh)



TZ-60 F

LOAD TABLE - MAXIMUM LIVE LOADS AND PROPPING

THREE
SPANS



MAXIMUM DESIGN LOADS (FACTORED) (kN/m²)

Height (H)	thk (mm)	DISTANCE BETWEEN SUPPORTS (m)												
		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
10 cm	0.80	13.8	11.1	8.0	5.8	4.2	3.0	2.0	2.0	1.4				
	1.00	14.2	12.1	8.8	6.4	4.7	3.4	2.4	2.4	1.6	1.0			
	1.20	14.2	12.6	9.6	7.1	5.2	3.8	2.7	2.7	1.9	1.3			
12 cm	0.80	16.0	14.1	11.8	9.6	7.7	5.7	4.2	4.2	3.0	2.1	1.5		
	1.00	17.7	15.7	14.0	11.7	8.7	6.5	4.8	4.8	3.6	2.6	1.8	1.1	
	1.20	18.4	16.2	14.4	12.8	9.6	7.3	5.5	5.5	4.1	3.0	2.1	1.4	
14 cm	0.80	17.9	15.8	14.1	11.8	9.6	7.9	6.4	6.7	5.4	4.1	3.0	2.2	1.5
	1.00	19.8	17.5	15.6	14.1	12.4	10.3	8.3	8.3	6.3	4.8	3.5	2.6	1.8
	1.20	21.6	19.1	17.1	15.4	14.0	12.1	9.4	9.4	7.2	5.5	4.1	3.1	2.2
16 cm	0.80	19.7	17.4	15.5	13.9	11.4	9.3	7.7	8.0	6.3	5.3	4.3	3.5	2.8
	1.00	21.8	19.2	17.1	15.4	13.9	12.3	10.2	11.1	8.6	7.2	6.0	4.6	3.4
	1.20	23.7	21.0	18.7	16.8	15.3	13.9	12.7	12.7	10.9	9.2	6.9	5.3	4.0
18 cm	0.80	21.4	18.8	16.7	15.0	13.1	10.8	8.9	9.3	7.3	6.0	4.9	3.9	3.1
	1.00	23.6	20.8	18.5	16.6	15.0	13.6	11.8	12.4	9.9	8.3	7.0	5.8	4.9
	1.20	25.8	22.7	20.3	18.2	16.5	15.0	13.7	13.7	12.5	10.6	9.0	7.6	6.4
20 cm	0.80	23.0	20.2	17.9	16.0	14.4	12.2	10.1	10.5	8.3	6.8	5.6	4.5	3.7
	1.00	25.4	22.4	19.9	17.8	16.0	14.5	13.2	13.2	11.2	9.4	8.0	6.6	5.5
	1.20	27.7	24.4	21.7	19.5	17.6	16.0	14.6	14.6	13.3	12.1	10.3	8.7	7.3

NOTES:

Maximum admissible deflection:

Service state: L/350

Concreting stage: L/240

Support length considered

in calculations: 100 mm

Materials:

Concrete HA-25

Reinforcement B500T

With intermediate propping in the centre of the span, with a minimum support of 80 mm.

With two intermediate props distributed along the span, with a minimum support of 80 mm.

CONSIDERATIONS ON THE USE OF THESE TABLES:

Tables based on tests run in the University of Navarra. The values shown in the table are factored loads, which should be compared with the design loads (factored) in each project.

Tables valid only for pre-dimensioning. The project manager must make the structural calculation according to the applicable standard in each country. Kingspan expressly declines any responsibility arising from the use of these tables.

In the case of a continuous slab is calculated as single span sections, an upper reinforcement of 0,2% should be provided for non-propped construction, and 0,4% for propped construction.

Kingspan provides its clients with a free calculation and sizing service for mixed framework, according to each client's requirements, using its own software (according to the national E.H.E. standard and European standard Eurocode 4).

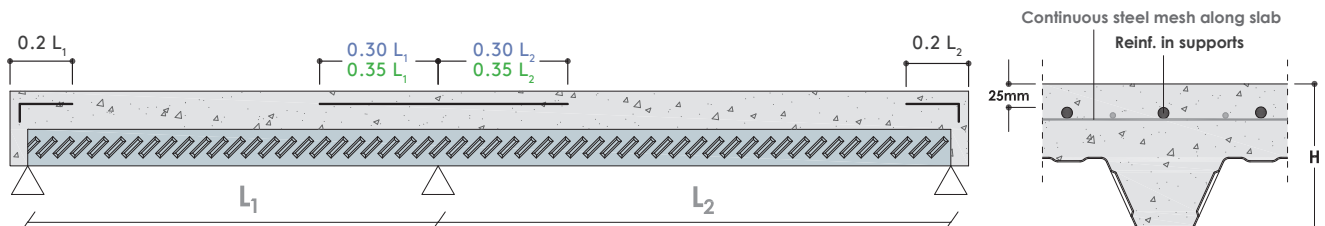
TZ-60 F

DESIGN TABLE - REINFORCEMENT

THREE SPANS		L (m) L (m) L (m)			REINFORCEMENT REQUIRED(cm ² /m)									
		DISTANCE BETWEEN SUPPORTS (m)												
Height (H)	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
10 cm	0.80	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	0.98 1.41	0.98 0.98	0.98 0.98	0.98 0.98				
	1.00	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	0.98 1.41	0.98 0.98	0.98 0.98	0.98 0.98			
	1.20	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	0.98 1.41	0.98 0.98			
12 cm	0.80	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	0.98 1.41	0.98 1.41		
	1.00	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	0.98 1.41	
	1.20	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 3.93	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 2.51	0.98 1.41	0.98 1.41	
14 cm	0.80	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01
	1.00	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01	1.13 2.01
	1.20	1.13 3.14	1.13 3.14	1.13 3.14	1.13 4.52	1.13 4.52	1.13 4.52	1.13 3.14	1.13 3.14	1.13 3.14	1.13 3.14	1.13 2.01	1.13 2.01	1.13 2.01
16 cm	0.80	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 1.13	2.01 1.13
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 1.13
	1.20	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 2.01	2.01 2.01	2.01 2.01
18 cm	0.80	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01
	1.20	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14
20 cm	0.80	2.01 0.00	2.01 0.00	2.01 0.00	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 0.79	2.01 3.14
	1.00	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01	2.01 2.01
	1.20	2.01 2.01	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 3.14	2.01 2.01	2.01 2.01	2.01 2.01

Additional reinforcement area (cm²/m) in support area (length according to colour, following diagram)

Reinforcement area (cm²/m) continuous along the whole slab (steel mesh)



TZ-60 F

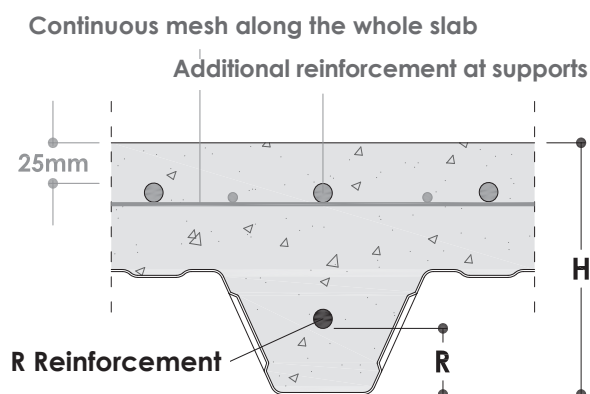
DESIGN TABLE - FIRE RESISTANCE (REI 30 TO REI 120)

The collaborating framework TZ-60F, on its own and without additional passive fire protection, provides a REI 30 fire resistance (30 minutes).

If the works project to be executed requires a higher fire resistance, for example REI 60, REI 90 or REI 120 (60, 90 or 120 minutes), without any additional external protection, a system of reinforcements in accordance with reference standards CTE-DB-SI, EHE-08 and EC4, comprising the following characteristics must be implemented:

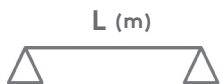
Base reinforcement: Both the continuous mesh and the reinforcement frame in supports must be available, as indicated in the tables above. However, the reinforcement frame in supports will be provided along the whole of the framework, not only in the support areas.

Additional R reinforcement: in each framework profile rib, it will be necessary to have an additional reinforcement of the diameter given in the following tables. The minimum coating for this additional R reinforcement will be 50 mm.



DESIGN TABLE - RIB REINFORCEMENT

SIMPLY SUPPORTED



ADDITIONAL R REINFORCEMENT (RIB)

		DISTANCE BETWEEN SUPPORTS (m)												
H / REI	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
12 cm REI 60	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-	-	-	-	-
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-	-	-	-
	1.20	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	-	-	-
14 cm REI 90	0.80	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	-	-	-
	1.00	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10	1Ø10	1Ø10	1Ø10	-	-
	1.20	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10	1Ø10	1Ø10	1Ø10	-	-
16 cm REI 120	0.80	1Ø10	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	-	-
	1.00	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
	1.20	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
18 cm REI 120	0.80	1Ø10	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
	1.00	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
	1.20	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
20 cm REI 120	0.80	1Ø8	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
	1.00	1Ø10	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14	1Ø14
	1.20	1Ø10	1Ø10	1Ø10	1Ø12	1Ø12	1Ø12	1Ø12	1Ø14	1Ø14	1Ø14	1Ø14	1Ø16	1Ø16

Reinforcement bar placed in each rib. Concrete cover 50 mm.

TZ-60 F

TWO SPANS



ADDITIONAL R REINFORCEMENT (RIB)

DISTANCE BETWEEN SUPPORTS (m)

H / REI	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
12 cm REI 60	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
14 cm REI 90	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
16 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø8
18 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8
20 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8

Reinforcement bar placed in each rib. Concrete cover 50 mm.

THREE SPANS



ADDITIONAL R REINFORCEMENT (RIB)

DISTANCE BETWEEN SUPPORTS (m)

H / REI	thk (mm)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
12 cm REI 60	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-	-
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	-
14 cm REI 90	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8
16 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10	1Ø10
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10
18 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø8	1Ø10
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø10	1Ø8	1Ø8	1Ø8
20 cm REI 120	0.80	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø10	1Ø10	1Ø10
	1.00	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø8	1Ø8	1Ø8	1Ø10
	1.20	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø6	1Ø10	1Ø10	1Ø10

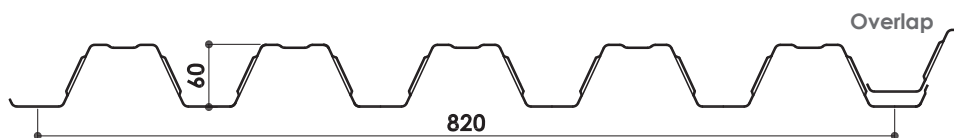
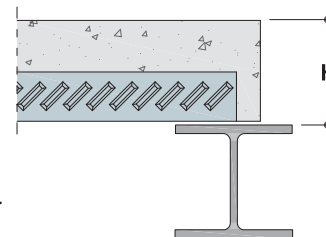
Reinforcement bar placed in each rib. Concrete cover 50 mm.



TZ-60 F

LOAD TABLE - PERMANENT FORMWORK

The galvanised TZ-60 F profile with notches may be used in composite frameworks, but also in **permanent formwork** applications.



PROFILE TECHNICAL INFORMATION:

THICKNESS (mm)	PROFILE WEIGHT (kg/ml)	(kg/m ²)	MOMENT OF INERTIA I (cm ⁴ /m)	RESISTANT MODULUS Wmin (cm ³ /m)	BENDING MOMENT Mf (kgf·m)
0.8	7.85	9.57	51.38	16.74	286
1.0	9.81	11.96	67.23	22.26	356
1.2	11.78	14.36	83.44	26.92	431

TECHNICAL CHARACTERISTICS:

		H - TOTAL SLAB HEIGHT (cm)						
		thk (mm)	10	12	14	16	18	20
SLAB SELF-WEIGHT (kg/m ²)	0.8		180	230	280	330	380	430
	1.0		182	232	282	332	382	432
	1.2		185	235	285	335	385	435
CONCRETE VOLUME (l/m ²)			68	88	108	128	148	168

MAXIMUM LOADS (kp/m²):

		SPAN BETWEEN SUPPORTS (m)								
thk (mm)	SUPPORTS	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
0.8		2,143	952	518	265	153	97	65	45	33
		2,143	952	536	343	238	175	134	106	80
		2,678	1,190	670	429	290	182	122	86	63
1.0		2,849	1,266	678	347	201	158	85	59	43
		2,849	1,266	712	456	317	233	178	141	105
		3,562	1,583	890	570	379	239	160	112	82
1.2		3,446	1,531	841	431	249	157	105	74	54
		3,446	1,531	861	551	383	281	215	170	130
		4,307	1,914	1,077	689	470	296	198	139	102

DESIGN CRITERIA: Concrete density, 2,500 kg/m³. Deflection L/200.

Teczone Española S.L.U. reserves the right to modify the contents of this document without any prior warning. Every effort has been made to ensure that the content of this publication is accurate, but Teczone Española S.L.U. and its affiliated companies are not responsible for errors or information that may be misleading. Suggestions regarding the final use or application of the products or work methods are merely informative and Teczone Española S.L.U. and its affiliates do not accept any responsibility in this regard.