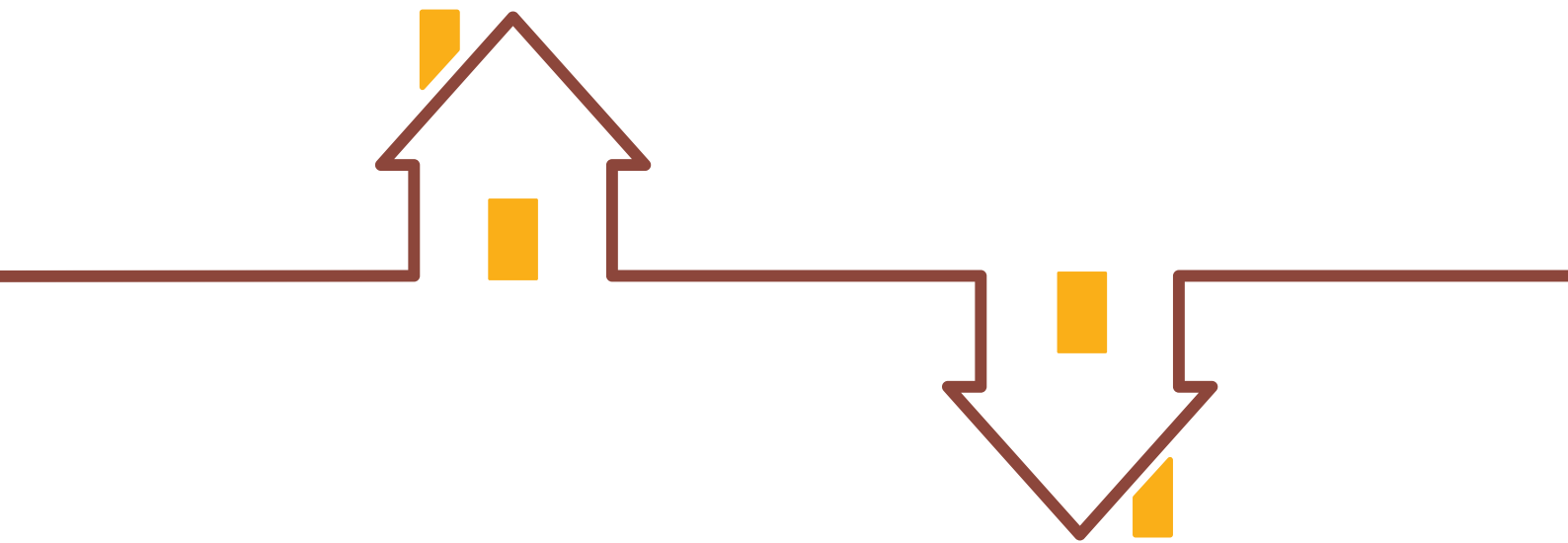


sofos[®]

the lightweight floor



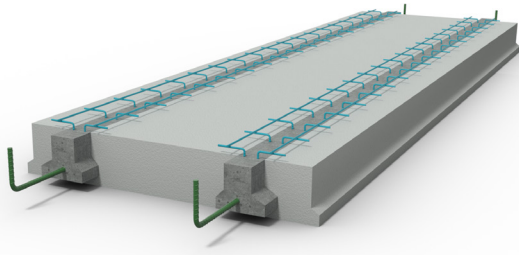
Sofos: one **solution** for
multiple uses.



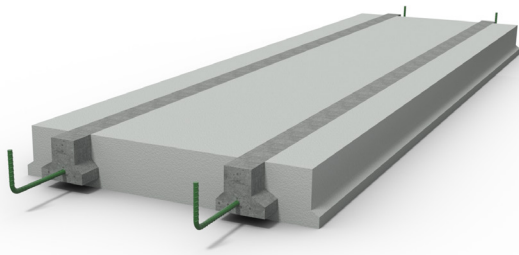
The **anti-seismic** prefabricated **lightweight slab** for **civil/ residential** use.

- » **Quick and easy** application
- » Suitable for **floors and roofs**

THE RC TECHNICAL SOLUTION INNOVATIVE AND EFFECTIVE PRESTRESSING.



SofoS CC



SofoS CC

Anti-seismic and insulating

SofoS is **earthquake-proof**, highly thermally and acoustically insulating. Thanks to the prestressed beams, **SofoS** slabs also have **considerable tensile strength**. With the presence of the insulating material also in the lower part of the prestressed beams, **SofoS** slabs **eliminate thermal bridges and prevent condensation**.

SofoS adapts in thicknesses and modules to the **most diverse seismic and structural requirements** and customises each individual project to its architectural specifications.

Why choose SofoS

- **Because it is the lightest slab on the market;**
- It significantly **increases** the thermal insulation characteristics;
- **It is ideal** for thermal insulation of buildings due to its insensitivity to moisture, compact cells, high compressive strength and remarkable dimensional stability;
- **It is quick and easy to apply**, and keeps floors, walls and roofs warm and dry, protecting them from moisture either by capillarity or condensation;
- **It can be** used in extreme climatic conditions (very high/very low temperatures). Resistance to weathering is ensured by the high resistance to the transition from the frost phase to the thaw phase. Even situations of high humidity are no problem for **SofoS**;
- **SofoS** with Graphite has excellent fire behaviour;
- **It has 100% material recyclability;**

sofos®

The lightest prefabricated floor on the market:

Keyword: lightness

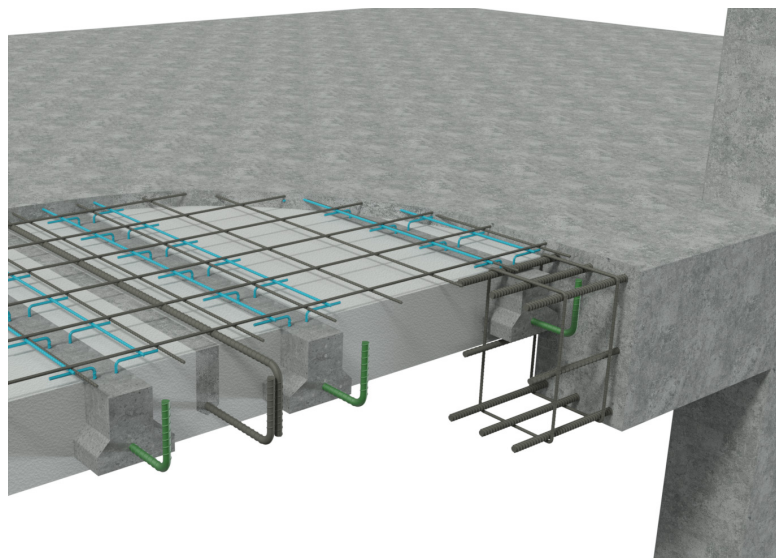
SofoS is the first prefabricated prestressed reinforced concrete floor slab with on-site completion of the screed and roofing with or without on-site screed. Making it **even lighter**.

Unparalleled. The **SofoS** floor slab consists of prestressed concrete beams with a fixed centre distance, "embedded" in polystyrene insulation par excellence, which can have the most variable performance characteristics (EPS type in various densities and with graphite, EPS-T and XPS, the latter also self-extinguishing) in relation to the **most diverse construction requirements**.

Adaptable to every need

The **modularity of SofoS** prefabricated slabs allows great savings in construction time, transport, handling and installation of the entire slab.

The variable height of the slabs makes it possible to choose the most suitable thicknesses according to length as well as thermal transmittance and sound insulation.

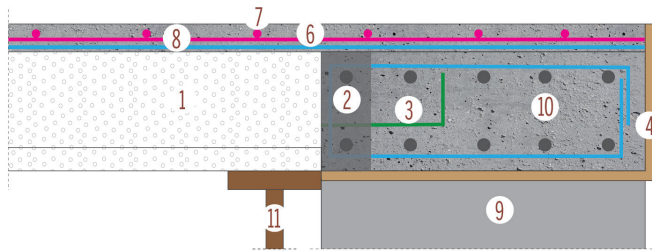


- Provides optimal sound insulation;
- **Meets** the requirements of UNI 11532-1: 2018 '**Indoor acoustic characteristics of confined spaces - Design methods and assessment techniques - Part 1: General requirements**';
- **Has certified fire resistance;**
- **It is architecturally versatile.**

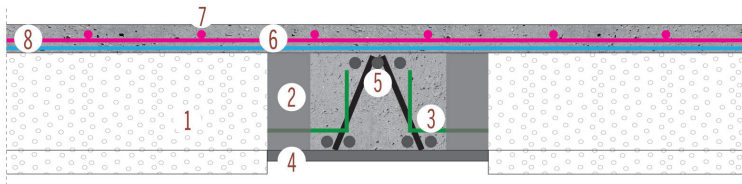
SofoS: innovation and effectiveness

SofoS prefabricated slabs are self-supporting and allow for fast (approx. 400 sqm per day) and **safe** installation. They are suitable for decks in **civil** or **large structures** such as roofs, due to the modularity of the solutions and allow the **implementation of even complex geometries** satisfying any structural requirement.

A simple support on pillar



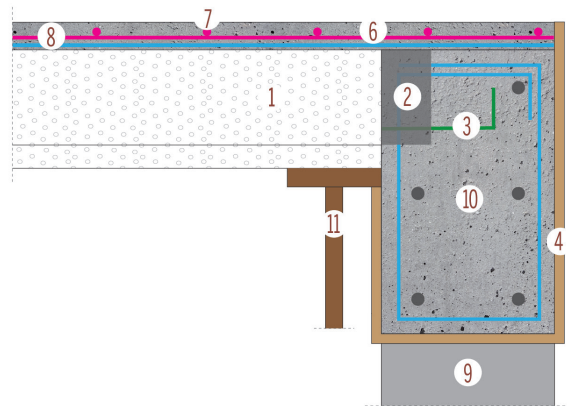
A simple support on lattice girder



Safe High Performance

The **SofoS** slab stems from the performance approach also reiterated in the revision of the **Technical Regulations on Construction** (NTC18), the objectives of the project are clarified in terms of the '**performance**' to be required from the structure (P.B.D. Performance-Based Design) which, in turn, are calibrated according to the probability of **the seismic event being more or less frequent and more or less destructive** (M.L.P.D. Multi-Level Performance Design).

A simple support on an in-situ beam



Key

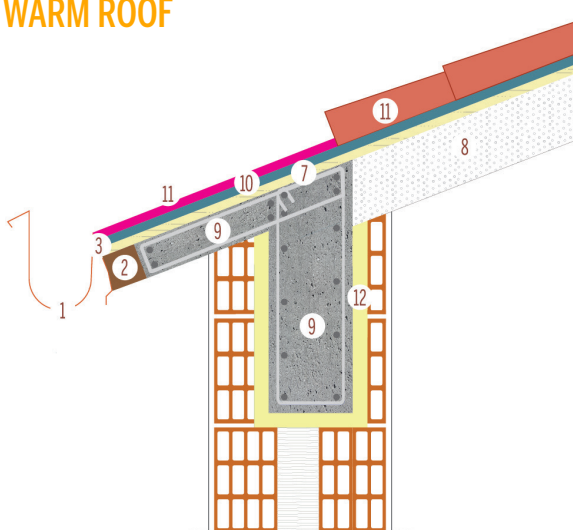
- | | |
|---|-----------------------------|
| 1. SofoS | 7. Electrowelded mesh |
| 2. SofoS beam | 8. Pouring of slab in place |
| 3. Slack reinforcement below the supports | 9. Pillar |
| 4. Contrast for beam casting | 10. Beam in situ |
| 5. Lattice girder on steel plate | 11. Shore |
| 6. Extradados continuity reinforcement | |

Reliability over time

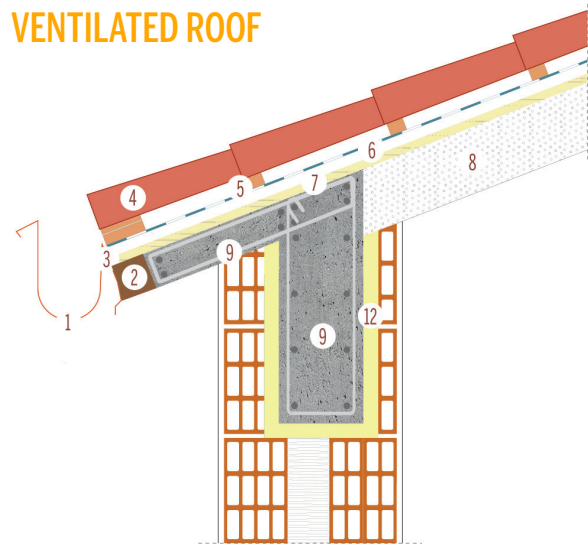
The numerous studies and laboratory tests that followed during the study and design phases of the new product and the numerous application experiences, due to their vastness and static commitment, have highlighted that in a deck made with **SofoS** with prestressed RC beams, polystyrene

and a slab cast in situ, despite the diversity of the elements constituting the floor, monolithic structural solutions with great reliability are obtained.

WARM ROOF

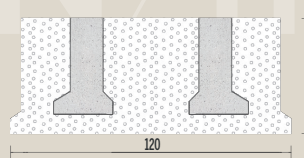


VENTILATED ROOF



Key

- | | | | |
|-------------------------|---------------------------|--------------|--|
| 1. Gutter | 4. Roof tiles | 7. OSB panel | 10. Bituminous sheath |
| 2. Closing wooden strip | 5. Roof tile holder strip | 8. SofoS SC | 11. Slated sheathing or roof tiles, etc. |
| 3. Perforated flashing | 6. Ventilation chamber | 9. RC beam | 12. Insulating material |



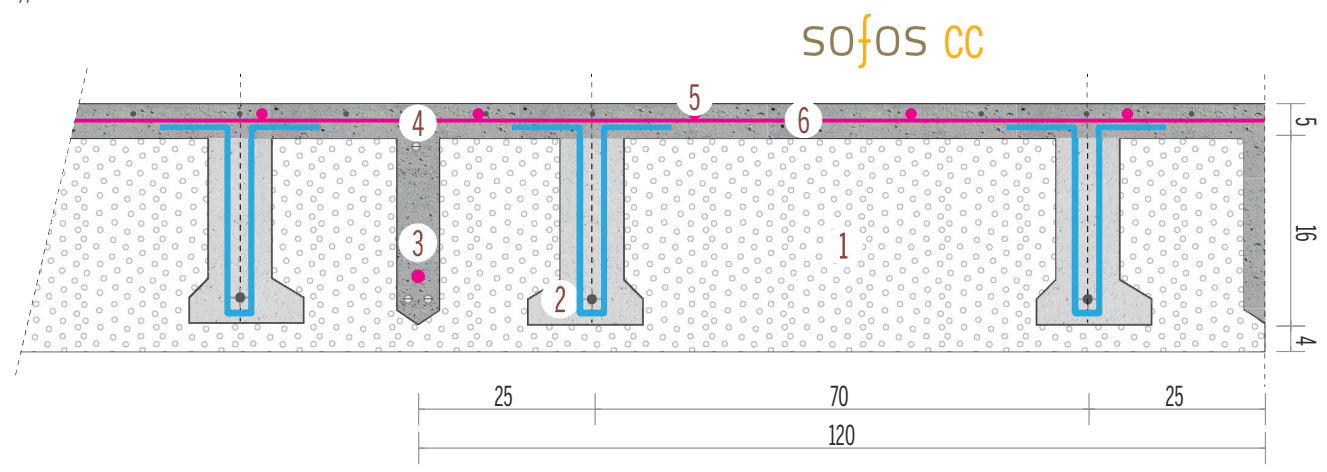
- Key**
1. Insulation material such as EPS or XPS* or EPS-T* or other*
 2. SofoS prefabricated CAP beam
 3. Core to be cast in situ
 4. Ditching reinforcement according to design in place
 5. Electrowelded mesh
 6. Casting 5 cm screed (slab) in situ

*On request

FLOOR WITHOUT SLAB

SofoS Model 4/16/5 CC (H16 Cm + 5 cm)	Components	Weight	Slab use
	SofoS	0,85 [kN/m ²]	Slab for civil use for overloads up to 5.00 [kN/m²] over its own weight. » 60% permanent load » 40% accidental load.
	SMOOTHENED slab	1,04 [kN/m ²]	
	Screed (slab)	1,25 [kN/m ²]	
Slab with 5 cm screed	2,29 [kN/m ²]		

Slab type scheme with 5 cm screed.

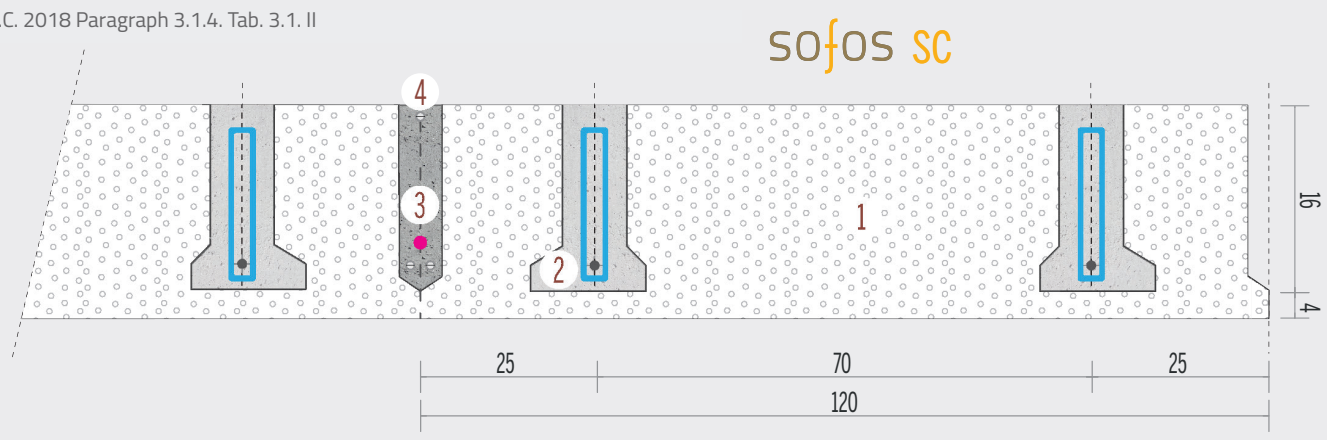


Overloads	5,00 [kN/m ²] q_k 2,00 [kN/m ²]=; Q_k =2,00 [kN]; H_k =1,00 [kN/m]				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	4.4	4.7	5.5	6.5	6.7

FLOOR WITHOUT SLAB

SofoS Model 4/16 SC For roofing	Components	Weight	Slab use
	SofoS	0,85 [kN/m ²]	Slab for civil use for overloads up to 2.70 [kN/m²] over its own weight.
SMOOTHENED slab	1,04 [kN/m ²]		

N.T.C. 2018 Paragraph 3.1.4. Tab. 3.1. II



Overloads	2,70 [kN/m ²] q_k 0,50[kN/m ²]=; Q_k =1,20 [kN]; H_k =1,00 [kN/m]				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	4.8	5.6	/	/	/

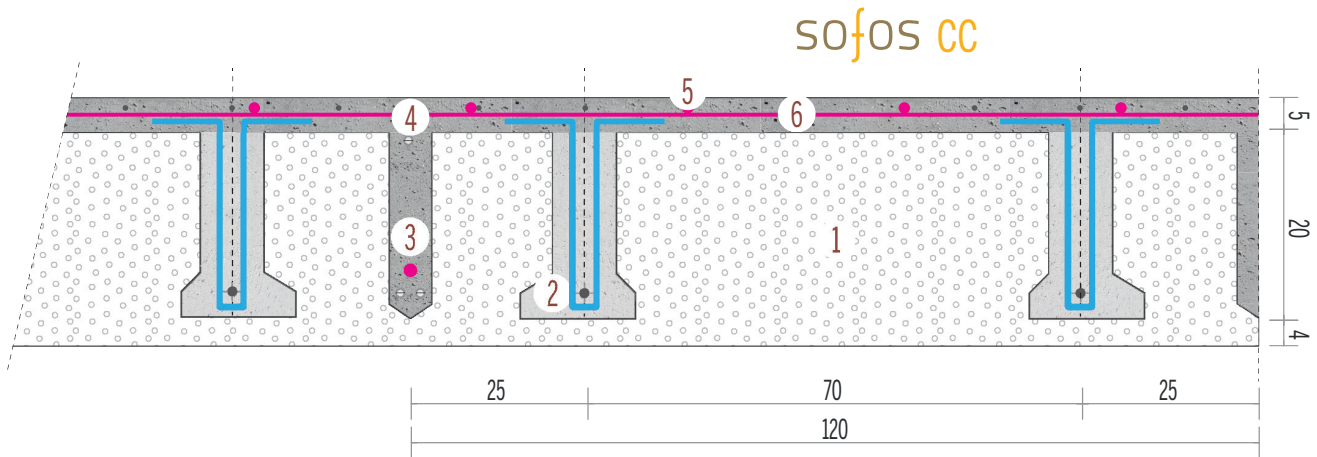
For different loads and spans, please contact our technical department.

The layer of insulating product underneath the beams is expected to be 40 mm thick. At the specific request of the design engineer or the client, this thickness can be increased in order to improve thermal and/or acoustic performance

sofos / Abaco

SofoS Model 4/20/5 CC (H20 Cm + 5 cm)	Components	Weight	Slab use
	SofoS	1,02 [kN/m ²]	Slab for civil use for overloads up to 5.00 [kN/m²] over its own weight. » 60% permanent load » 40% accidental load.
	SMOOTHENED slab	1,25 [kg/m ²]	
	Screed (slab)	1,25 [kN/m ²]	
Slab with 5 cm screed	2,50 [kN/m ²]		

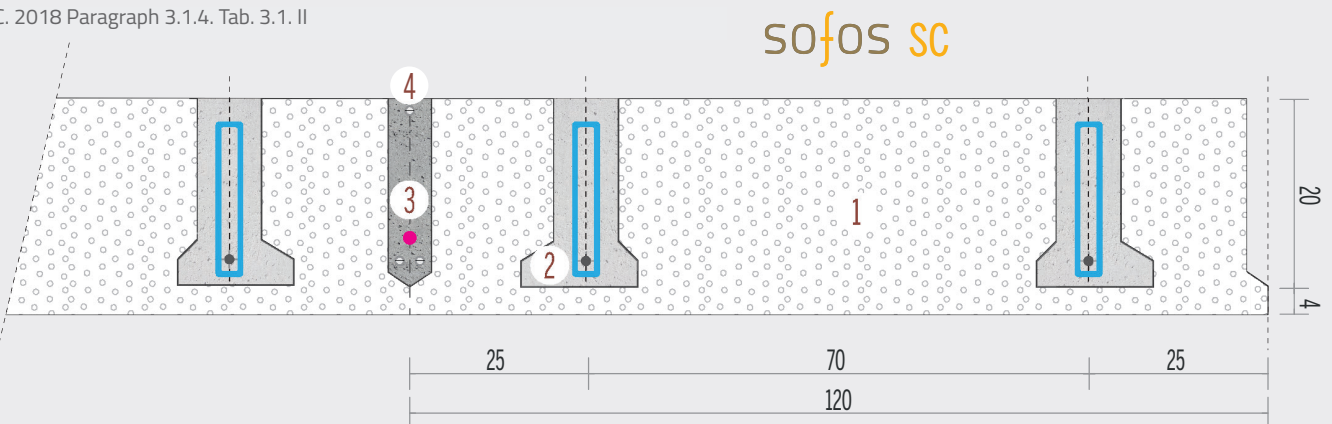
Slab type scheme with 5 cm screed.



Overloads	5,00 [kN/m ²] $q_k 2,00 [kN/m^2]=; Q_k=2,00 [kN]; H_k=1,00 [kN/m]$				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	5.0	5.8	6.5	7.6	8.0

SofoS Model 4/20 SC For roofing	Components	Weight	Slab use
	SofoS	1,02 [kN/m ²]	Slab for civil use for overloads up to 2.70 [kN/m²] over its own weight.
SMOOTHENED slab	1,25 [kN/m ²]		

N.T.C. 2018 Paragraph 3.1.4. Tab. 3.1. II

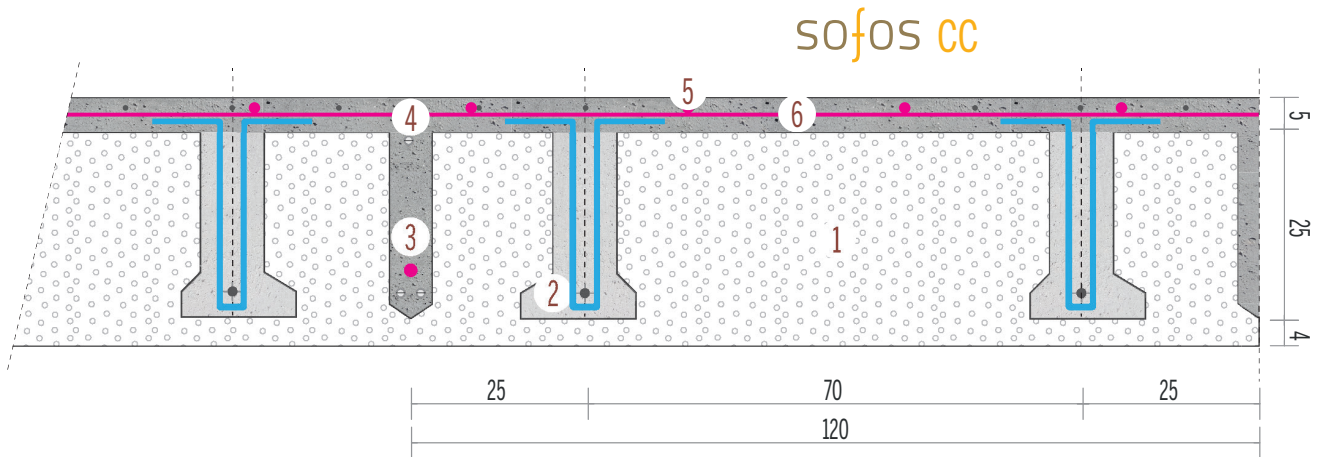


Overloads	2,70 [kN/m ²] $q_k 0,50 [kN/m^2]=; Q_k=1,20 [kN]; H_k=1,00 [kN/m]$				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	5.6	7.0	/	/	/

of performance

SofoS Model 4/25/5 CC (H20 Cm + 5 cm)	Components	Weight	Slab use
	SofoS	1,23 [kN/m ²]	Slab for civil use for overloads up to 5.00 [kN/m²] over its own weight. » 60% permanent load » 40% accidental load.
	SMOOTHENED slab	1,53 [kg/m ²]	
	5 cm screed (slab)	1,25 [kN/m ²]	
Slab with 5 cm screed	2,78 [kN/m ²]		

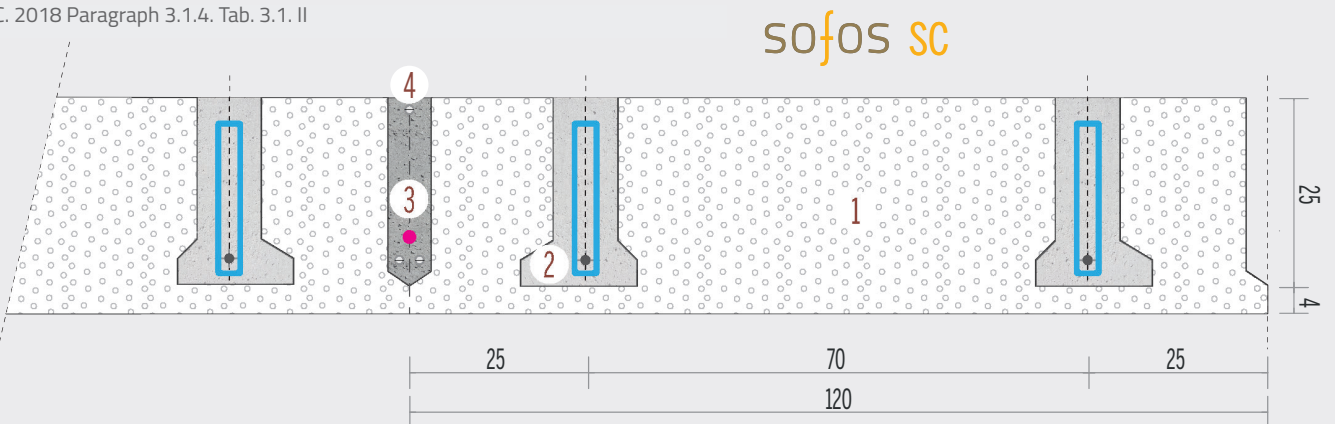
Slab type scheme with 5 cm screed.



Overloads	5,00 [kN/m ²] $q_k 2,00$ [kN/m ²]=; $Q_k=2,00$ [kN]; $H_k=1,00$ [kN/m]				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	5.5	6.9	7.4	8.6	9.3

SofoS Model 4/25 SC For roofing	Components	Weight	Slab use
	SofoS	1,23 [kN/m ²]	Slab for civil use for overloads up to 2.70 [kN/m²] over its own weight.
SMOOTHENED slab	1,53 [kN/m ²]		

N.T.C. 2018 Paragraph 3.1.4. Tab. 3.1. II

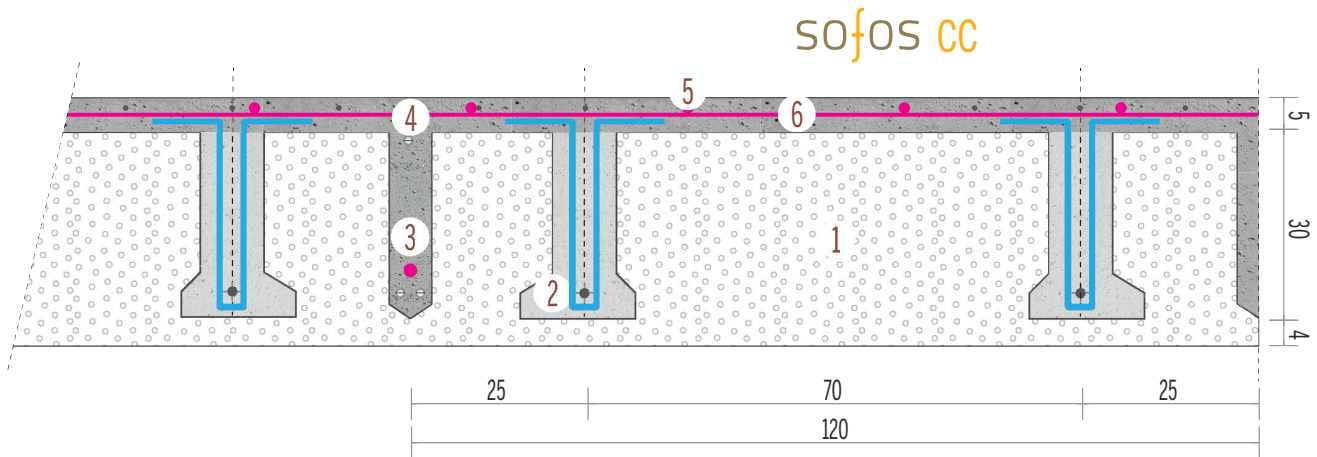


Overloads	2,70 [kN/m ²] $q_k 0,50$ [kN/m ²]=; $Q_k=1,20$ [kN]; $H_k=1,00$ [kN/m]				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	6.4	7.8	8.2	8.7	/

The **SofoS** models shown here are the basic ones, for different thicknesses and spans and higher loads please contact our technical department at: tecnicosofos@clesit.it.

SofoS Model 4/30/5 CC (H30 Cm + 5 cm)	Components	Weight	Slab use
	SofoS	1,44 [kN/m ²]	Slab for civil use for overloads up to 5.00 [kN/m²] over its own weight. >> 60% permanent load >> 40% accidental load.
	SMOOTHENED slab	1,80 [kg/m ²]	
	5 cm screed (slab)	1,25 [kN/m ²]	
Slab with 5 cm screed	3,05 [kN/m ²]		

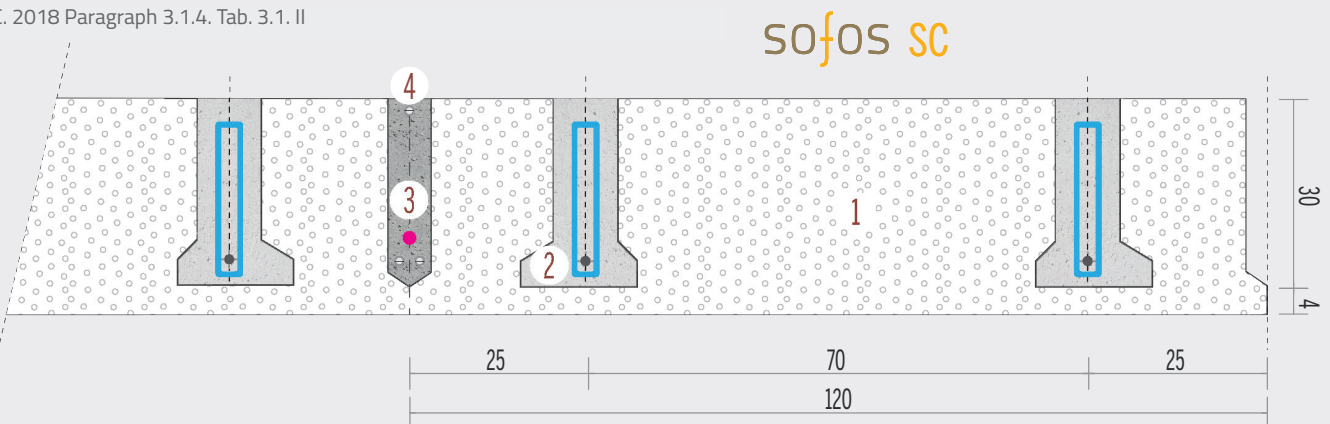
Slab type scheme with 5 cm screed.



Overloads	5,00 [kN/m ²] $q_k 2,00$ [kN/m ²]=; $Q_k=2,00$ [kN]; $H_k=1,00$ [kN/m]					
REINFORCEMENT	A1	A2	A3	A4	A5	A5
SPAN (ml)	6.0	7.7	8.0	9.4	10.3	12.0

SofoS Model 4/30 SC For roofing	Components	Weight	Slab use
	SofoS	1,44 [kN/m ²]	Slab for civil use for overloads up to 2.70 [kN/m²] over its own weight.
SMOOTHENED slab	1,80 [kN/m ²]		

N.T.C. 2018 Paragraph 3.1.4. Tab. 3.1. II



Overloads	2,70 [kN/m ²] $q_k 0,50$ [kN/m ²]=; $Q_k=1,20$ [kN]; $H_k=1,00$ [kN/m]				
REINFORCEMENT	A1	A2	A3	A4	A5
SPAN (ml)	7.0	8.6	9.1	10.5	/



Discover the features of **Clesi products**

For the Clesi works, only the executive attachments of the contract are authentic. All images in this brochure are used purely for illustrative purposes



SOFOS CUSTOMER CARE: Our technical department is at your disposal to assist you in the design phase. Send us the deck floor plan and/or roof layout in dwg or dxf format to: tecnicosofos@clesi.it. Our technicians will provide you with the necessary advice for correct sizing.

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