

Steel Connect C

Vertical connector for flexural reinforcement of reinforced concrete floors

Steel Connect C ensures the connection of the existing floor slab to the new floor slab, guaranteeing the correct transfer of seismic actions and implementing flexural strength and rigidity. Certified according to European standards for fastening on cracked and non-cracked concrete, seismic performance category C1.



1. Dry installation
2. High shear strength of the connection system
3. Certified fastening on cracked and non-cracked concrete
4. Protective galvanization
5. Intervention with reduced thicknesses

Areas of application

→ Intended use:

- Improvement and seismic upgrade of masonry and reinforced concrete structures
- Suitable for flexural strengthening and storey stiffening with Geolite FRC systems and traditional or lightweight concrete
- Connection between the existing floor slab and the new floor slab in order to ensure the correct transfer of shear stresses

- CE-marked with European Technical Assessment ETA 15/0784 for fastening on:
 - cracked and non-cracked concrete
 - concrete, resistance classes C20/25 to C50/60
 - reinforced and non-reinforced concrete

Instructions for use

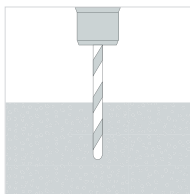
→ Preparation of the substrate

After propping up the floor slabs, remove any existing floors and screeds; remove any damaged concrete in depth until a layer of not carbonated concrete with a good level of solidity and evenness is reached. Then carefully remove rust from the reinforcing bars, which must be cleaned by brushing (manual or mechanical) or sandblasting. Clean the substrate removing any remaining dust, grease, oil and other contaminants using compressed air or a high pressure washer.

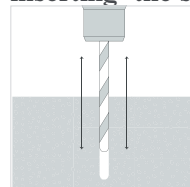
The solution here proposed can be adopted for different types of joisted floors.

→ Application

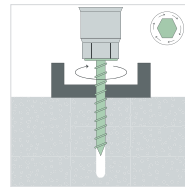
- ① Drilling with a roto-percussion drill or compressed air drill. Drill the pilot bore with an 8 mm drill bit for Steel Connect C10 or 10 mm drill bit for Steel Connect C12, with a depth equal to the chosen insertion length, increased by twice the diameter of the screw to be inserted. For the insertion of a 10 mm diameter screw with an insertion length of 65 mm, a 85 mm deep pilot bore will be drilled. For the insertion of a 12 mm diameter screw with an insertion length of 90 mm, a 114 mm deep pilot bore will be drilled.



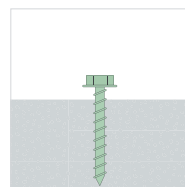
- ② Finish drilling by moving the drill from bottom to top so that some of the dust in the bore is blown out. Blowing and/or vacuuming before inserting the screw is not necessary.



- ③ Insert the screw into the bore and proceed with the installation using an impact driver until the desired embedment depth is reached.



- ④ Completion of the flexural strengthening by extrados application of composite-action casting of the Geolite FRC system: Geolite Magma Xenon & Steel Fiber.



Certificates and marks



Abstract

Supply and installation of a vertical connection for extrados flexural strengthening of reinforced concrete floor slabs. Will be carried out by using steel connectors with hexagonal head and threaded stem with external diameter of 10 mm and length of 80 mm, CE-marked according to EAD 330232-00-0601 with European Technical Assessment ETA 15/0784 and according to EAD 330747-00-0601 with European Technical Assessment ETA 15/0785 – such as Steel Connect C10 by Kerakoll. Technical characteristics of the connector: shear strength characteristic value for Rc 10 concrete ≥ 14.7 kN; shear strength average value for Rc 20 concrete ≥ 17.9 kN; dry installation.

Supply and installation of a vertical connection for extrados flexural strengthening of reinforced concrete floor slabs. Will be carried out by using steel connectors with hexagonal head and threaded stem with external \varnothing 12 mm and length 100 mm, CE-marked according to EAD 330232-00-0601 with European Technical Assessment ETA 15/0784 – such as Steel Connect C12 by Kerakoll.

Technical characteristics of the connector: shear strength characteristic value for Rc 10 concrete ≥ 19.1 kN; shear strength average value for Rc 20 concrete ≥ 21.6 kN; dry installation.

Technical Data compliant with Kerakoll Quality Standard	
Material	Galvanized steel
Length of the bar below the head:	
- Steel Connect C10	80 mm
- Steel Connect C12	100 mm
Bar diameter:	
- Steel Connect C10	10 mm
- Steel Connect C12	12 mm
Reaction to fire	class A1
Pack	3x50 pcs box

Performance		
HIGH-TECH		
Steel Connect C10		
Average shear strength for Rc 10 concrete, joist 8 cm	$P_{r,k}$	$\geq 14,7 \text{ kN}$
Average shear strength for Rc 10 concrete, joist 6 cm	$P_{r,k}$	$\geq 9,8 \text{ kN}$
Average shear strength for Rc 20 concrete, joist 8 cm	$P_{r,k}$	$\geq 17,9 \text{ kN}$
Average shear strength for Rc 20 concrete, joist 6 cm	$P_{r,k}$	$\geq 12,1 \text{ kN}$
CE-marked, with European Technical Assessment ETA 15/0784 according to EAD 330232-00-0601		
CE-marked, with European Technical Assessment ETA 15/0785 according to EAD 330747-00-0601		
Steel Connect C12		
Average shear strength for Rc 10 concrete, joist 8 cm	$P_{r,k}$	$\geq 19,1 \text{ kN}$
Average shear strength for Rc 20 concrete, joist 8 cm	$P_{r,k}$	$\geq 21,6 \text{ kN}$
CE-marked, with European Technical Assessment ETA 15/0784 according to EAD 330232-00-0601		

Warning

- Product for professional use

→ abide by any standards and national regulations

→ when handling the material wear protective clothing and goggles, and follow the instructions regarding methods for applying the material

→ store the material under cover in a dry place, well away from substances that might damage it
- the product is an item according to the definitions of the EC Regulation No. 1907/2006 and therefore does not require a Safety Data Sheet

→ for any other issues, contact Kerakoll Technical Customer Service:
+ 39 0536.811.516
www.kerakoll.com/contatti



The Rating classifications refer to the GreenBuilding Rating Manual 2012. This information was last updated in January 2025; please note that additions and/or amendments may be made over time by KERAKOLL SpA; for the latest version, see www.kerakoll.com. KERAKOLL SpA shall therefore be liable for the validity, accuracy and updating of information provided only when taken directly from its institutional website. The technical data sheet given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions of your building site and the execution of the work, this information represents general indications that do not bind Kerakoll in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.