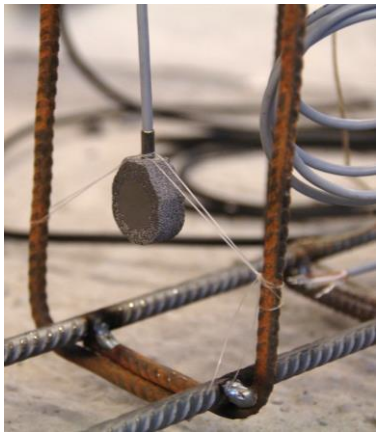
iCon mounting guidelines

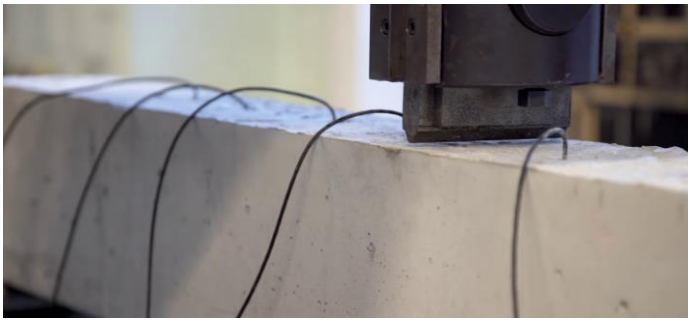
General guidelines

The type of mounting depends both on the type of concrete (reinforced or not) and on the type of application : when precise velocity measurements are needed, mounting needs to be very stiff in order to reduce relative motion between the transducers during casting. When only a reference signal is needed to do a monitoring of velocity or signal changes, a more flexible solution can be adopted

Flexible mounting

In reinforced concrete iCon transducers can be fixed to the rebar using nylon wires. If a stiffer connection is needed, nylon wires can be replaced by metallic bars, but caution should be taken to avoid wave propagation through the rebars as much as possible.





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Stiff mounting

When there are no rebars, an external fixation to the formwork should be designed. An example is given below with a stiff metallic bar attached to external slidable U-shaped fixations to the formwork

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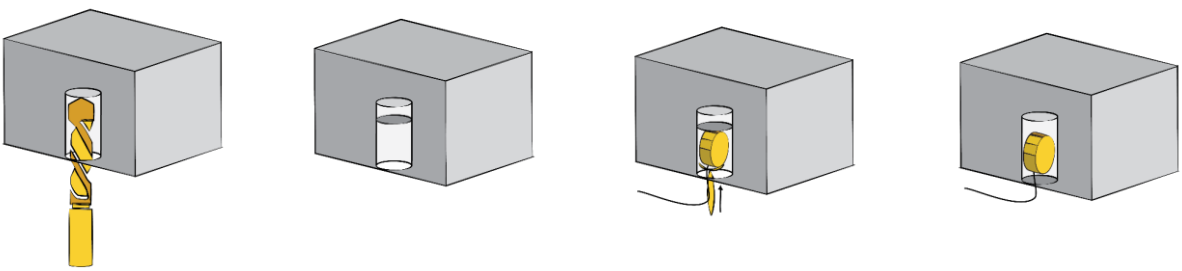
Mounting in existing structures

In existing structures, the transducers can be fixed using a 4 steps procedure illusttrated below : (i) drill a 25 to 30 mm hole, (ii) prefill with grout, (iii) insert transducer and orient properly and (iv) finish filling the hole with grout.
The grout needs to be stiff enough and free of air bubbles to ensure proper contact between the transducer and the surrounding concrete. Two-component sealing agents are a good option for a fast installation of the transducers.



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