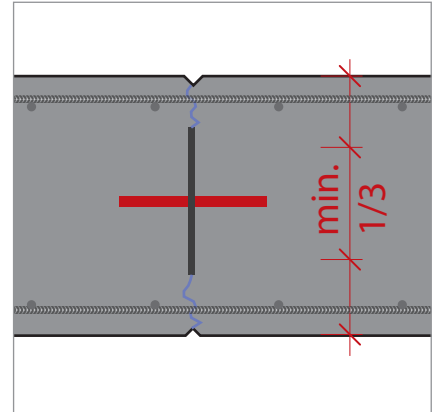


Induced crack joint elements in walls of impermeable concrete constructions

Effect of induced crack joints

To limit in particular shrinkage cracks to certain areas, it is recommended reducing the cross-section to at least one third of its thickness.

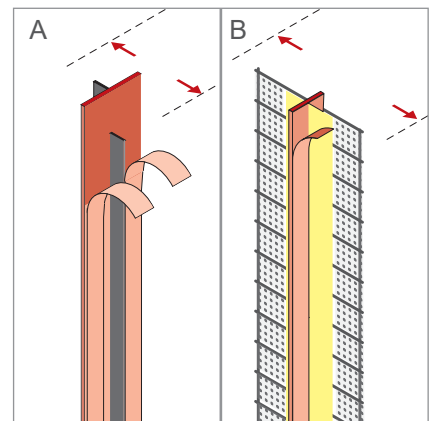
This reduction of the cross-section is ensured by the product. This procedure helps to limit the formation of cracks in a specific area. For a clean crack pattern on the surface, the use of triangular mouldings is essential.



Choice of the product

The use of the Fradiflex® Premium induced crack joint element **(A)** with a coated metal waterstop is recommended for wall thicknesses up to 450 mm. For greater wall thicknesses and if sealing with black metal sheet or rubber joint tape is required, the Stremaform® predetermined crack element **(B)** is used.

This can be supplied as a formwork element for working joints or for concreting through.



Dimensioning the distances for induced crack joints in walls

The location and quantity of crack control joints should be coordinated with the contractor and structural engineer. Reinforcement crossing these joints should be minimized as per requirements. Recommended distances between these crack introducers in walls are based on the listed sources:

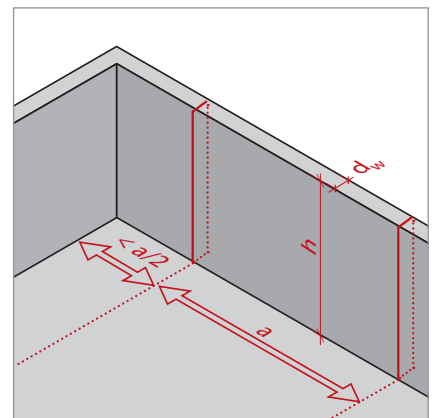
a spacing of the induced crack joints in[m]

d_w wall thickness in [m]

h wall height in [m]

- $a < 2h$
- $a = 6 - 8 \text{ m}$
- $a < 9 - 2,5 d_w$
- corners and recesses are to be considered separately
- plan one wall section for each corner

Sources: DAFStb-Richtlinie Wasserundurchlässige Bauwerke aus Beton Dez. 2017 (Guidelines for water-impermeable concrete structures)
DAFStb-Heft 555 Erläuterung DAFStb-Richtlinie Wasserundurchlässige Bauwerke aus Beton Dez. 2006 (Explanation DAFStb guideline Water-impermeable concrete structures)
DBV-Merkblatt Fugenausbildung für ausgewählte Baukörper aus Beton, 2001 (DBV leaflet on joint formation for selected concrete structures)
Rainer Hohmann, Fugenabdichtung bei wasserundurchlässigen Bauwerken aus Beton, 2009, Fraunhofer IRB Verlag (Joint sealing for water-impermeable concrete structures)



All of the specifications serve as a guide for determining the joint spacing for walls.

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250TDB06/01 – INT/GB – 04/24

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