



Technical Approval

SINTEF Building and Infrastructure confirms that

Baca Rad(on) Brønn 100 og Baca Rad(on) Brønn 500

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document

1. Holder of the approval

Baca Plastindustri AS

Ulsmågvegen 20

5224 Nesttun

www.baca.no

2. Product description

Baca Rad(on) Brønn 100 and Baca Rad(on) Brønn 500 is partially perforated pipes for use as radon well. The radon wells consist of an upper part of polypropylene (PP) and a lower part of perforated 0.7 mm stainless steel attached by either screws or pop rivets. The upper part of Baca Rad(on) Brønn 100 is 110 mm x 3.4 mm and 225 mm from the bottom of the lower part it is perforated with 644 circular holes with diameter 5.0 mm. The upper part of Baca Rad(on) Brønn 500 is 200 mm x 6.9 mm and 225 mm from the bottom of the lower part it is perforated with 1148 circular holes with diameter 5.0 mm. See Fig. 1. In the upper part the radon wells have a sleeve with EPDM rubber to achieve tight connections. The radon wells comes with airtight lid of polypropylene.

The radon wells have a diameter adapted to mounting holes with diameter of 120 mm and 210 mm in floors and to assembly in free space of $\Phi 110$ mm and 200 mm ventilation duct or PVC pipe.

3. Fields of application

Baca Rad(on) Brønn 100 and Baca Rad(on) Brønn 500 may be used as radon well in existing buildings or as preparation for radon well in new buildings, ref. Regulation on technical requirements for construction works (TEK10) §13-5. The products can be used in small houses and larger buildings to facilitate pressure-change/ventilation of the ground underneath the building. Fig. 2 shows the radon wells mounted in a floor construction. Fig. 3 shows the principle of connecting the radon wells to a ventilation system.

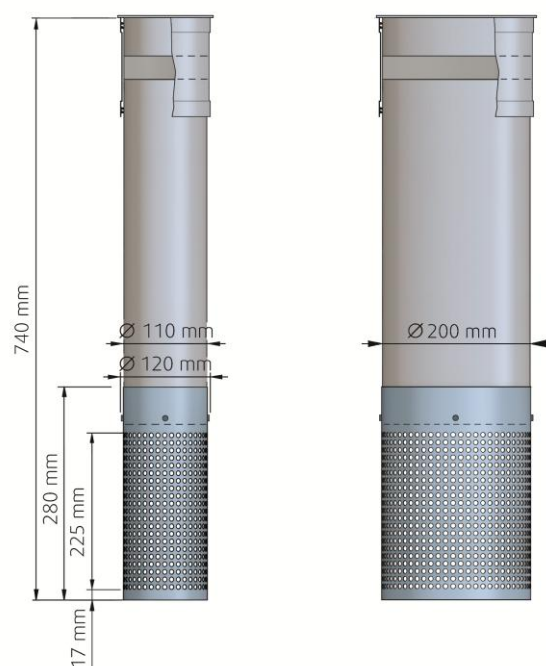


Fig. 1
Baca Rad(on) Brønn 100 and Baca Rad(on) Brønn 500

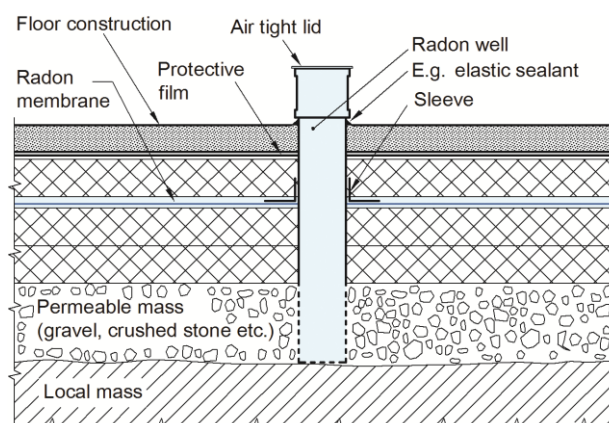


Fig. 2
Example of radon well installed vertical in a floor construction

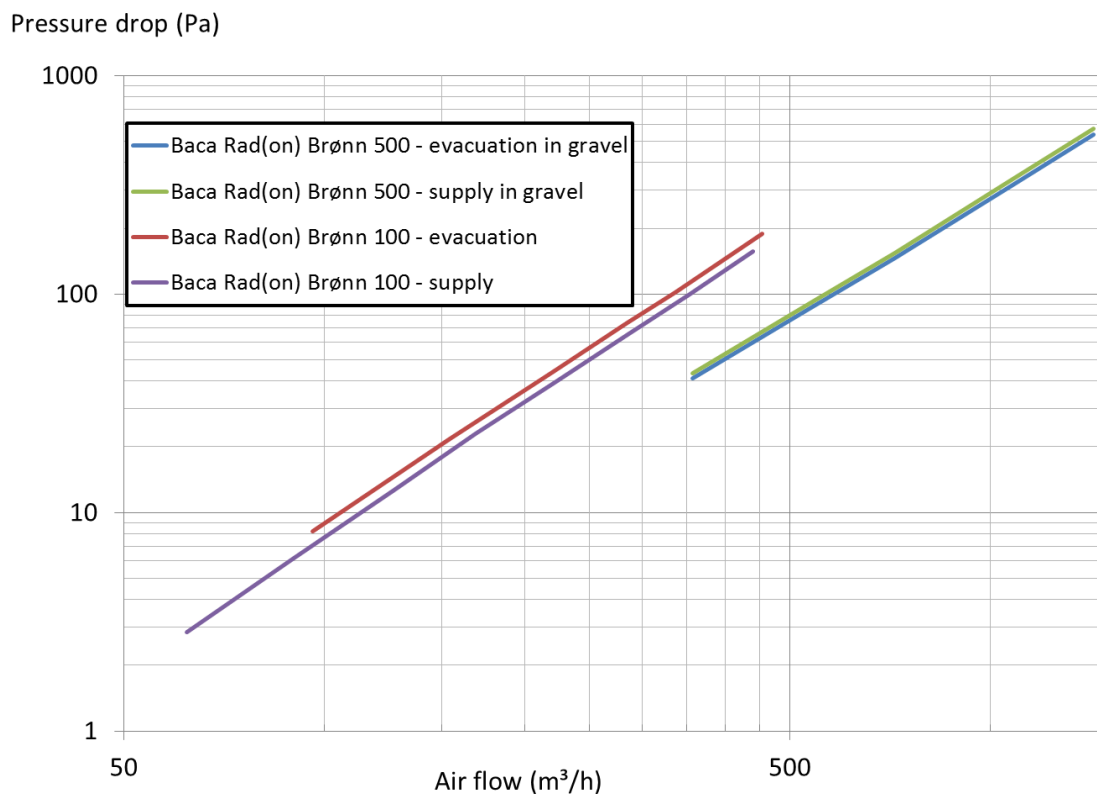


Fig. 4
Pressure drop as a function of air flow for Baca Rad(on) Brønn 100 and Baca Rad(on) Brønn 500

4. Properties

Capacity

Pressure drop curves for supply and exhaust air are shown in Fig. 4.

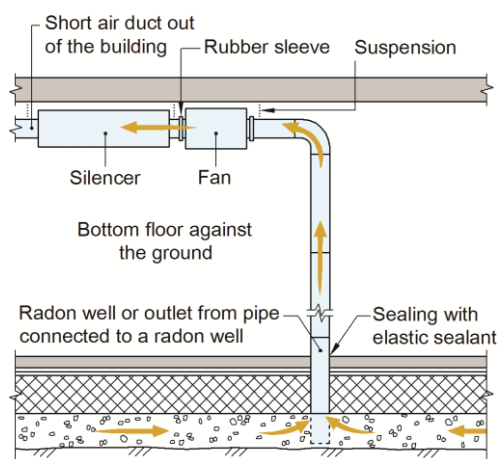


Fig. 3
Example of connecting the radon well to ventilation system

Durability

Baca Rad(on) Brønn 100 and Baca Rad(on) Brønn 500 are assessed to have adequate corrosion resistance for their given field of application.

5. Environmental aspects

Substances hazardous to health and environment

The product contains no hazardous substances with priority in quantities that pose any risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Effect on indoor environment

The product is not regarded as emitting any particles, gases or radiation that have a perceptible impact on the indoor climate, or to have any significant impact on health.

Effect on soil, surface water and ground water

The leaching properties of the product are evaluated to have no negative effects on soil or ground water.

Waste treatment/recycling

The product shall be sorted as metal and residual waste on the building/demolition site. The product shall be delivered to an authorized waste treatment plant for material and energy recovery.

Environmental declaration

No environmental declaration (EPD) has been worked out for the product.

6. Special conditions for use and installation

Design considerations

Design considerations should be according to SINTEF Building Research Design Guide 520.706 *Sikring mot radon ved nybygging* and 701.706 *Tiltak mot radon i eksisterende boliger*.

Installation

Floor/wall penetrations must be sealed between the concrete and the radon well. Where the radon well passes through the radon membrane penetrations should be planned and must be sealed with elastic sealants or special sleeves as instructed by the supplier of the membrane.

Slab on ground must be built up with the permeable mass with a thickness of 200 mm in the same level as the radon wells perforations. See Fig. 2. The permeable masses should have a minimum grain size of 8 mm.

7. Factory production control

The product is produced by Sigurd Opheim AS, 5257 Kokstad, Norway

The holder of the approval is responsible for the factory production control in order to ensure that the product is produced in accordance with the preconditions applying to this approval.

The manufacturing of the product is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

8. Basis for the approval

The approval is based on product properties documented in the following reports:

- SINTEF Byggforsk, report 3D1383.02, dated 2012-10-16
- SINTEF Byggforsk, report 102000688-2, dated 2016-04-16

9. Marking

The products shall be marked with product name, production date and supplier.

The approval mark for SINTEF Technical Approval No. 20335 may also be used.



Approval mark

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402.

for SINTEF Building and Infrastructure

Hans Boye Skogstad
Approval Manager