

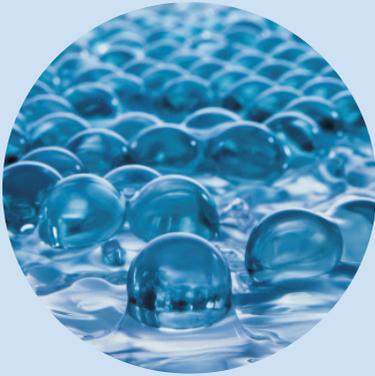
SiLibeads[®]

Crystal clear water



Maier Services • 978-664-9355 • 71 Concord St., North Reading, MA

7 Advantages of glass beads compared with gravel as filter in water wells



1 Microbiological clean delivery

- no disinfection necessary before use



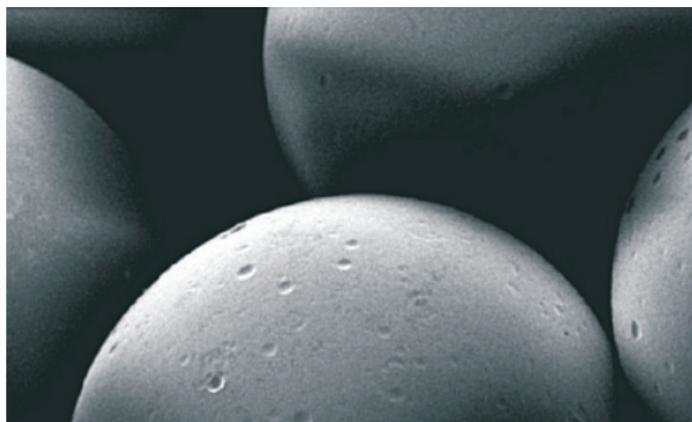
2 Precisely spheric and homogenous particle size

- no „bridges“ or jamming when installed
- single sized grading curve allows maximum screen slot width
- greatest possible pore space and permeability
- no secondary consolidation, steady pore volume and hydraulic permeability
- optimum well rehabilitation due to wider and regular pore channels



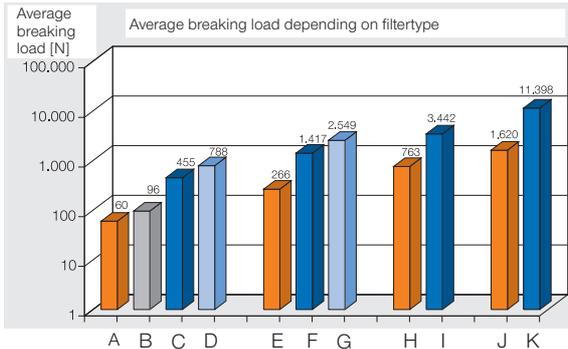
3 Large diameter variety

- best adaption to nominal grain of the aquifer



4 4 to 16 times higher break resistance than gravel

- no cracking at installation
- no clogging of screen slots with debris
- no clogging of filter pore channels
- no sand removal pumping after installation

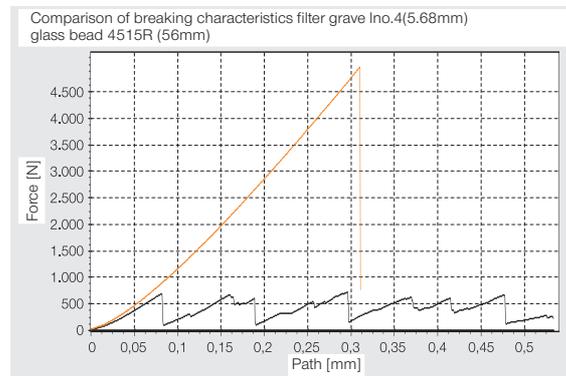


A = Filter gravel no. 1 (1.42.2 mm); B = filter gravel no. 2 (12 mm); C = glass bead type S (1.251.65 mm) part no.: 4505 #923033; D = glass bead type S (1.50+0.2) part no.: 4505A #8200291; E = filter gravel no. 3 (2.03.15 mm); F = glass bead type S (2.853.45 mm) part no.: 4511 #920032; G = glass bead type S (3.00+0.3) part no.: 4511A #820022; H = filter gravel no. 4 (5.68 mm); I = glass bead type S (56 mm); J = filter gravel no. 5 (812 mm); K = glass bead type M (12 mm) part no.: 50189924 #85505720 Filtertype

Inspection lot n=20; Breaking load determination: at 90
Machine type inspect table 20kN (Hege% >Fmax.
Hegewald & Peschke) Tester: Michael Danhof
Test velocity: from 0 = 50 mm/min

Fig. 2: Magnitudes of breaking load of filter gravel and glass beads at static load handling.
Source: Authors

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— Filter gravel no. 4 (5.68 mm) — Glass bead 4515R #953059 (56 mm)

Fig. 3: Load curves for filter gravel (here: 5.6 to 8 mm) and glass beads (here: 5.6 to 8 mm) as a function of the path of the testing stamp. In the case shown here, the glass bead can only be deformed by 0.3 mm, the gravel grain of the same size only by 0.09 mm before it breaks up into smaller pieces for the first time.

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5 Least possible and smooth surface

- less than 40 % inclusion of iron and manganese compared to gravel filters
- longer intervals between well rehabilitations

6 Good visibility of filter package in Johnsons screens

- best visual check capability



7 Longer lasting lifetime and operation cycle of well at lower costs for operation and maintenance

table on the back