



ZEOLIT
Natural clinoptilolite

GOLF GREENS • FOOTBALL PITCHES • MUNICIPAL SPORTS GROUNDS

More water where the roots are. Same drainage.

A sand rootzone drains beautifully and holds nothing.
Clinoptilolite is the one amendment that fixes both halves
of that trade without touching infiltration.



[Read more](#)

Turf and sports surfaces

USGA-spec sand gives you firmness, infiltration and resistance to compaction – and almost no capacity to hold water or nutrients. Peat decomposes. Calcined clays help with water but not with nutrients.

Cornell University measured the alternative directly. Adding 5–10% clinoptilolite by weight to a sand rootzone **doubled plant-available water**, from 6.4% to 12.6%, and lifted cation exchange capacity from 0.08 to 13 cmol/kg – while saturated hydraulic conductivity stayed at 40.5 cm/h against 39.6 for the sand alone. More water held. Nutrients held. Same drainage.

What has actually been measured

- ✓ Plant-available water in sand doubled, 6.37% → 12.60%, at 5–10% by weight
Petrovic 1993, Cornell
- ✓ Cation exchange capacity 0.08 → 13 cmol/kg at 10% w/w
Petrovic 1993
- ✓ Drainage unchanged: 40.53 vs 39.58 cm/h
Petrovic 1993
- ✓ Better germination, root mass, ground cover and winter hardiness over four seasons; optimal rate 5%
Lipińska 2025, Poland

Specification

CLINOPTILOLITE CONTENT

93–100% (XRD)

BULK DENSITY

650–850 kg/m³

SPECIFIC SURFACE AREA

40 m²/g

HARDNESS (MOHS)

2–3

NA₂O

0.3–1.3%

CATION EXCHANGE CAPACITY

108–146 meq/100 g

PH

7.0–8.0

PORE DIAMETER

0.43 nm

LOSS ON IGNITION

6.4–15.8%

QUARTZ

0–2%

A four-year Polish study published in 2025 confirmed it in the field on perennial ryegrass and red fescue: better germination, more root mass, better ground cover, **better winter hardiness**, and fewer broadleaf weeds. The optimal rate was 5%.

That splits the product in two. A construction or renovation amendment is an engineering material at 5% by weight of the rootzone. A maintenance topdressing is an agronomic programme that builds toward the same concentration over years. Do not buy the second and expect the first.

How to use it

- **Construction / renovation:** 5% by weight of the rootzone — about 50–70 t/ha at 100 mm depth. Incorporated, not broadcast.
- **Maintenance topdressing:** 150–300 kg/ha per month, 0.5–1.5 mm, blended into your normal sand dressing and timed with core aeration.
- **Drainage layer:** 16–32 mm under new turf.
- Every application adds permanent cation exchange capacity to the top of the profile. It does not decompose, it does not wash out, and it builds.



What it will not do

Our material is **2–3 on the Mohs scale, which is soft**, and the founding study on this application asks a question nobody has answered since 1993: whether traffic crushes zeolite to silt and clogs the sand. **We are running abrasion testing before we recommend the 1–3 mm grade as a permanent construction amendment**, and we will publish the number whatever it says. We also do not claim the wear-tolerance figure some suppliers print — no wear study exists. And it holds ammonium, not nitrate and not phosphate.

Greenkeepers do not buy minerals from a brochure; they buy from a plot on their own course. Three sacks, two greens, one written protocol, moisture and firmness readings before and after. Ask for the trial kit.

Products and pack sizes

PRODUCT	GRADE	PACK
TURF-RZ-BB	1-3 mm	1.000 kg big bag
TURF-RZ-25	1-3 mm	25 kg sack
TURF-TD-BB	0,5-1,5 mm	1.000 kg big bag
TURF-TD-25	0,5-1,5 mm	25 kg sack
TURF-DR-BB	16-32 mm	1.000 kg big bag
TURF-SPORT-25	0,5-2,0 mm	25 kg sack
TURF-TRIAL	0,5-1,5 mm	3 × 25 kg trial kit

Request products

Tell us the application and the volume. We answer with a written quotation.

zeolite.gratierne.com/en/contact.html



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