Mudmaster

HDD drilling fluid guide

CEBO HOLLAND · 2026

01 Products

● Primary ○ Secondary

Product	Description	Viscosity	Thinner	Filtration	Surfactant	Lubricant	Suspension	Inhibitor	kg / m³
CEBOGEL® OCMA	Viscosifier	●		●			●		**65 – 80**
TUNNEL-GEL® MAX	Viscosifier	●		●			●		**30 – 40**
TUNNEL-GEL® PLUS	High-yield gellant viscosifier	●		●			○		**28 – 35**
TUNNEL-GEL® PRO	Clay inhibitive viscosifier	●		●		○	○	●	**25 – 30**
TUNNEL-GEL® SW	Salt-water bentonite	●		●			○		**25 – 35**
QUIK-TROL® LV / PAC™-L	Low viscosity filtration control			●				○	**0.5 – 1.5**
QUIK-TROL® / PAC™-R	Filtration control	○		●				○	**0.5 – 1**
EZ-MUD® GOLD EU	Shale/clay stabilizer, filtration control			○		○		●	**0.5 – 1.5**
NO-SAG® / BARAZAN® D	Suspension enhancer	○					●		**0.25 – 1.5**
PENETROL® DRY EU	Non-ionic surfactant				●			○	**1 – 3**
N-SEAL™	Acid soluble loss of circulation material			●			○		**3 – 10**
CEBO HYBRID-GEL	Biodegradable fluid system	○		●			○		**3 – 5**
CEBO HYBRID-GEL PRO	Clay inhibitive pure polymer system	○		●		○	○	●	**3 – 6**

02 Geology

Challenge → **base** + additives

Cobbles

Borehole caving; lost circulation
CEBOGEL® OCMA + QUIK-TROL® LV, N-SEAL™

Poor steering; stuck tooling
TUNNEL-GEL® MAX + QUIK-TROL® LV, NO-SAG®

Gravel

Borehole caving; fluid loss
CEBOGEL® OCMA + QUIK-TROL® LV, N-SEAL™

Cuttings settling; abrasive wear
TUNNEL-GEL® MAX + QUIK-TROL®, NO-SAG®

Sand & gravel

Borehole collapse; high fluid loss
TUNNEL-GEL® MAX + QUIK-TROL® LV

Poor cuttings suspension; pack-off
TUNNEL-GEL® PLUS + QUIK-TROL®, NO-SAG®

Sand

Borehole sloughing; high filtration
TUNNEL-GEL® PLUS + QUIK-TROL®

Cuttings-bed buildup; inadvertent returns
TUNNEL-GEL® MAX + QUIK-TROL® LV

Sand & clay

Unstable soil transitions; clay dispersion
TUNNEL-GEL® PLUS
+ QUIK-TROL®, EZ-MUD® GOLD EU

Sand settling; restricted returns
TUNNEL-GEL® PRO + QUIK-TROL® LV

Dry clay

Rapid hydration; viscosity build-up
TUNNEL-GEL® PRO + QUIK-TROL® LV

Bit balling; plugged nozzles
TUNNEL-GEL® PLUS + EZ-MUD® GOLD EU

Sticky / swelling clay

Clay swelling; borehole constriction
TUNNEL-GEL® PRO
+ QUIK-TROL® LV, PENETROL® DRY EU

High torque; stuck pipe
TUNNEL-GEL® PLUS + EZ-MUD® GOLD EU

Rock

Slow penetration; steering difficulty
TUNNEL-GEL® PLUS + NO-SAG®, QUIK-TROL®

Tool wear / vibration; losses in fractures
ULTRAFOAM™ EU
+ EZ-MUD® GOLD EU, QUIK-TROL® LV

Salt water environment

Reduced bentonite yield; fluid flocculation
CEBOGEL® OCMA + NO-SAG®

High filtration; equipment corrosion
TUNNEL-GEL® SW + QUIK-TROL® LV

03 Fluid control

Test make-up water first, then monitor throughout the bore

Property · equipment	Target range	Action threshold	Recommended action
Total hardness Hardness test strips	**< 100 mg/L**	≥ 100 mg/L	Treat make-up water with soda ash (0.5–1 kg/m³); retest before mixing.
pH pH test strips	**pH 8.5 – 9.5**	< 8.5 or > 9.5	Adjust make-up water gradually to pH 8.5–9.5; retest before adding products.
Marsh funnel viscosity Marsh funnel	**50 – 80 sec**	Outside 50–80 sec or > 5% change	**Low:** increase bentonite/polymer. **High:** dilute or add thinner and reduce concentration.
Mud weight Mud balance	**< 1.2 g/cm³ (recycled)**	≥ 1.20 g/cm³ or ≥ 0.02 change	Use solids control or dilute; increase circulation and reduce penetration rate.
Filtration rate API filter press	**< 15 ml / 30 min**	≥ 15 ml/30 min or > 20% increase	Add filtration-control polymer; verify concentration, monitor and maintain.
Sand content Sand content test kit	**< 1% after recycling**	≥ 1%	Improve solids control; check shaker screens and recycling equipment for damage or misalignment.
Yield point Rheometer	**Based on geology + annular velocity**	Significant deviation from baseline; poor cuttings transport or excessive pump pressure	**Poor cuttings returns:** increase YP. **High pressure/viscosity:** check for contaminants, sufficient flow rate and solids control equipment.
Low-shear yield point Rheometer	**Based on geology + annular velocity**	Material deviation from baseline; cuttings settling, poor returns or excessive pump pressure	**Low:** increase low-shear suspension and retest. **High:** improve solids control and check for contaminants.
Gel strength 10 s / 10 min Rheometer	**Project-specific; rapid, flat gel based**	Poor initial suspension, or progressive gel buildup from 10 sec to 10 min	**Low initial gel:** add bentonite or NO-SAG®. **Progressive gels:** improve solids control and check for contaminants.

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Dosages in kg per m³ of drilling fluid. ® / ™ trademarks of their respective owners.