MATEX

ENVIRONMENTALLY SAFE DRILLING FLUIDS

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Field Guide

Products

Mixing System

Sand Drill

DD-2000

Core Wrap

DD-955

Checklist

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Diamond Drilling Products

Torqueless

The ultimate environmentally safe water soluble diamond drilling lubricant for reducing in-hole torque, rod wear, preventing rust, extending bit life and tool life. Mix *Torqueless* with all Matex products!

DD-2000

An environmentally safe dry powdered polymer, DD-2000 is mixed with *Torqueless* and water to create a very high viscosity drilling fluid used for the removal of cuttings and continuous borehole wall conditioning.

Sand Drill

A special dry blend of polymers for drilling through and achieving excellent core recovery in sand, gravel and cobbles. Always premix with *Torqueless* before introducing to water.

Core Wrap

An environmentally safe unique blend of powdered polymers designed to reduce costs while retrieving maximum core potential in unconsolidated formations.

DD-955

A multi-charged liquid or dry polymer and formation stabilizer for use with shale and clay reducing in hole swelling and instability problems.

Ultravis

A highly concentrated liquid polymer. Mixed with *Torqueless* and water, creating a high viscosity drilling fluid used for removal of cuttings and continuous borehole wall conditioning.

DD-Xpand

A solid granular polymer that absorbs water and swells 50 to 100 times its size. Great as a loss circulation material when mixed with water or your drilling fluids.

DD-Xpress

An environmentally safe DSPA (dry suspended polyacrylamide). A one pail solution to drill most ground conditions, including clay. Just add water to create a powerful viscosifier and borehole stabilizer.

Sand-Xpress

An environmentally safe DSPA (dry suspended polyacrylamide). A one pail solution to drill through sands and gravels, including clay. Just add water to improve core recovery in overburden, sands or gravels.

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The Optimal Mixing System

The required consistency and best results
will be achieved by using a two-tank mixing system.

Benefits of a Two-Tank Mixing System

General Benefits	Drilling Benefits
Recommended mixing time (12 min.)	Polymer chain unravels, creating an inhole web.
Longer and stronger chains.	Better borehole stabilization and core recovery.
Drilling cycle consistency.	Eliminate the necessity of continual mixing.
No residual on bottom of the tank.	Less product required and no waste.
Usable pill tank if required.	Prepare a special mix in case of emergency.

Consistency

Keeping consistency when mixing the fluids will allow Matex polymer chains to create a strong web, optimizing hole stabilization and core recovery.

NOTE WHERE TO INTRODUCE PRE-MIX

NOTE THE EFFECT OF THE SPINNING WEB ON THE CORE AND BOREHOLE WALL

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Sand Drill

**Encapsulating and penetrating
both the core and the borehole walls.**

Torqueless + Sand Drill

Addition	Product	Dosage (for 1,000 L)	Mixing Time	Results
1st	**Soda Ash / pH 10** • Add to a tank half full of water	**1 L**	**1 min.**	**pH of 8-10**
2nd	**Torqueless** • Pre-mix with dry products and re-fill the tank	**4 L**	**12 min.**	**42-45 sec. Viscosity**
	Sand Drill	**2 L**		
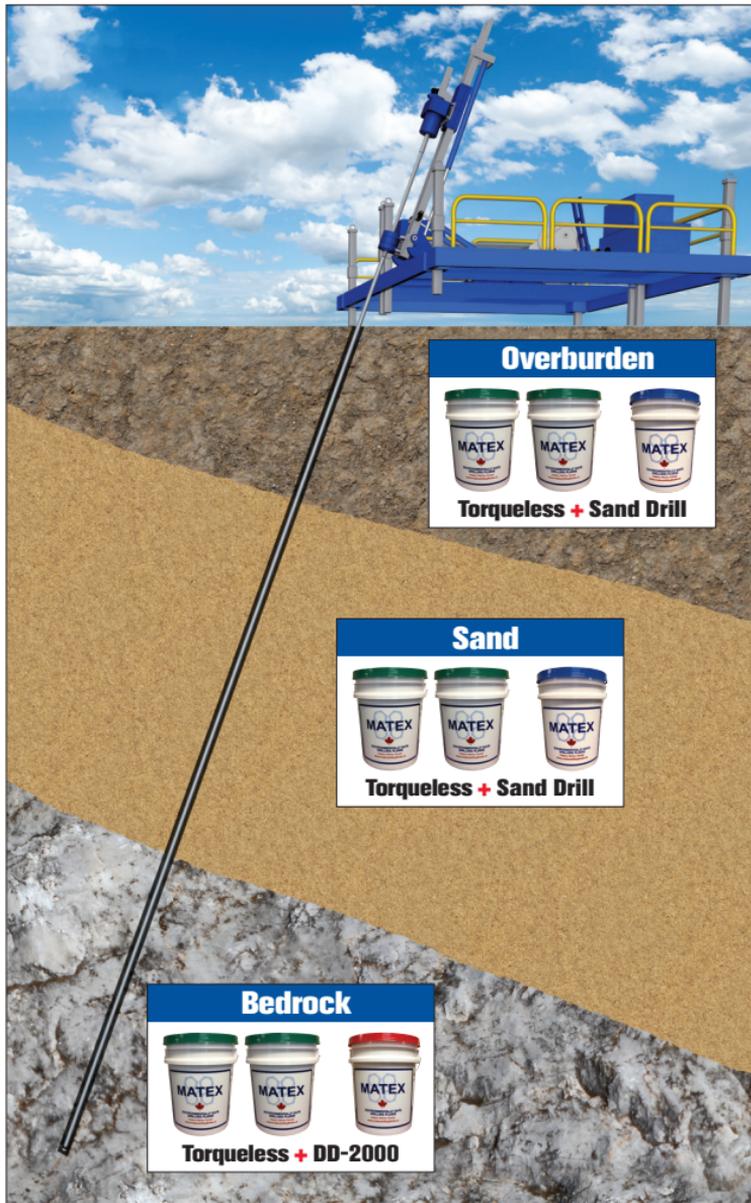
Overburden

Torqueless + Sand Drill

Sand

Torqueless + Sand Drill

Bedrock

Torqueless + DD-2000

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DD-2000

Imparting excellent viscosity yield
for removal of cuttings and borehole stability.

Torqueless + DD-2000

Addition	Product	Dosage (for 1,000 L)	Mixing Time	Results
1st	**Soda Ash / pH 10** • Add to a tank half full of water	1 L	1 min.	pH of 8-10
2nd	**Torqueless** • Pre-mix with dry products and re-fill the tank	2 L	12 min.	42-60 sec. Viscosity
	DD-2000	1 L		

Overburden

Torqueless **+** Sand Drill

Bedrock

Torqueless **+** DD-2000

Swelling Clay

Torqueless **+** DD-2000 **+** DD-955

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Core Wrap

Wrapping the core sample to
maximize recovery while stabilizing the borehole.

Torqueless **+** Core Wrap

Addition	Product	Dosage (for 1,000 L)	Mixing Time	Results
1st	**Soda Ash / pH 10** • Add to a tank half full of water	1 L	1 min.	pH of 8-10
2nd	**Torqueless** • Pre-mix with dry products and re-fill the tank	2 L	12 min.	42-60 sec. Viscosity
	Core Wrap	1 L		
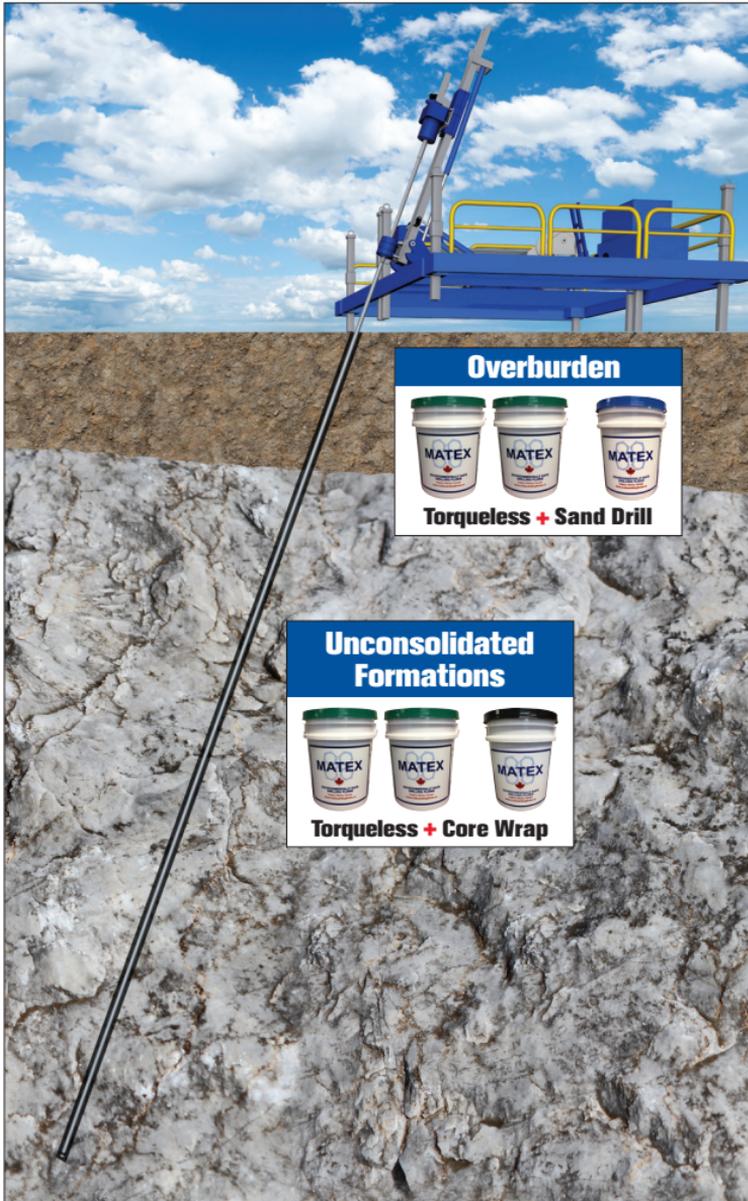
Overburden

Torqueless **+** Sand Drill

Unconsolidated Formations

Torqueless **+** Core Wrap

DD-955

Inhibiting swelling clays to prevent in-hole damage and mud rings.

Torqueless + DD-2000 + DD-955

Addition	Product	Dosage (for 1,000 L)	Mixing Time	Results
1st	**Soda Ash / pH 10** • Add to a tank half full of water	1 L	1 min.	pH of 8-10
2nd	**Torqueless** • Pre-mix with dry products and re-fill the tank	2-4 L	12 min.	42-60 sec. Viscosity
	DD-2000	1-2 L		
	DD-955	0.5-1 L		
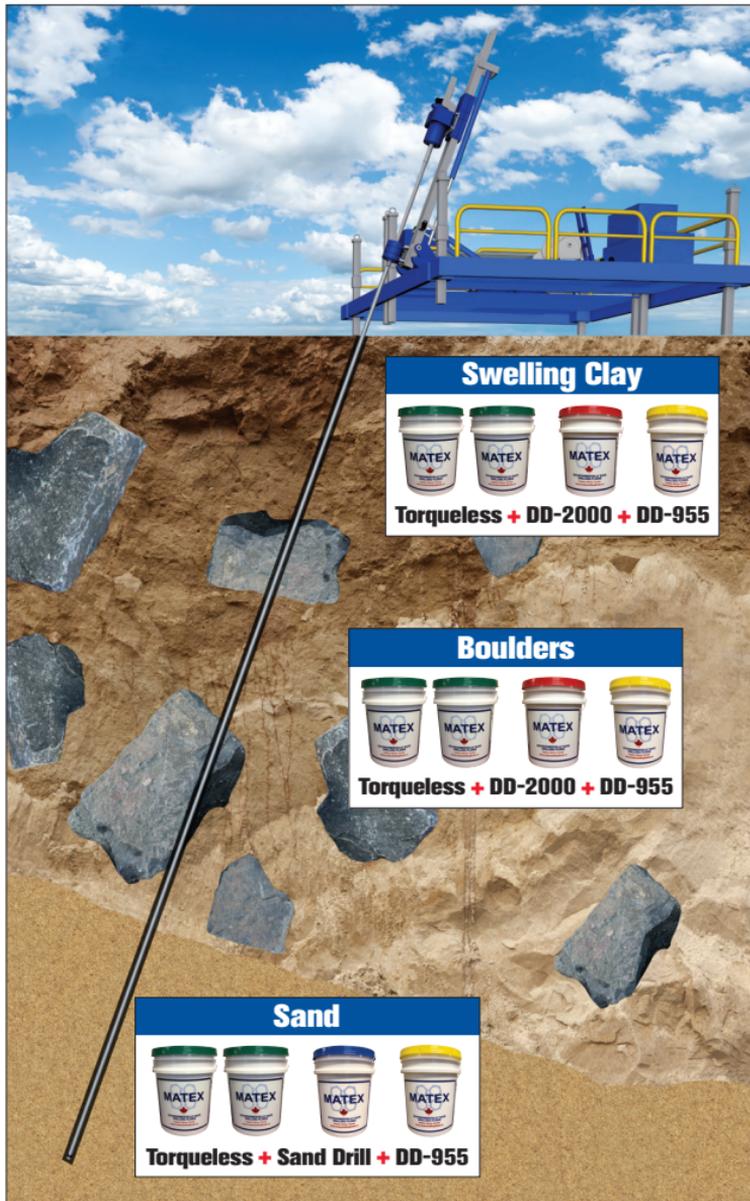
Swelling Clay

Torqueless **+** DD-2000 **+** DD-955

Boulders

Torqueless **+** DD-2000 **+** DD-955

Sand

Torqueless **+** Sand Drill **+** DD-955
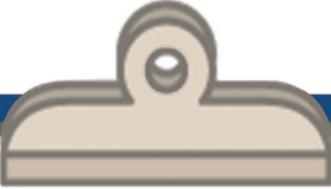
Checklist

☑ Test the water and bring the pH to 8-10 before adding the fluids.

☑ Pre-mix the drilling fluids and add in a half tank full. Then refill with water.

☑ Mix for at least 12 minutes for best results.

☑ Measure viscosity.

Viscosity Control and Core Recovery

DD-2000	Sand Drill	Ultravis	Core Wrap
Torqueless: 2-4 L	Torqueless: 2-4 L	Torqueless: 2 L	Torqueless: 2-4 L
DD-2000: 1-2 L	Sand Drill: 1-2 L	Ultravis: 2-4 L	Core Wrap: 1-2 L
Viscosity: 42-60 sec.	Viscosity: 42-60 sec.	Viscosity: 42-60 sec.	Viscosity: 42-60 sec.

Core Recovery for Unconsolidated Formations (Sand, Gravel, Overburden)

Sand Drill	Sand-Xpress
Torqueless: 2-4 L	Sand-Xpress: 3 L
Sand Drill: 1-2 L	Viscosity: 42-45 sec.
Viscosity: 42-60 sec.	Add more if required.

Lubricant and Torque Reducer

Torqueless
Torqueless: 2-4 L
Dry Polymer: 1-2 L
Viscosity: 42-60 sec.

Loss Circulation and Plug Material

DD-Xpand
DD-Xpand Fine: Add 1/2 kg into the mixing tank.
DD-Xpand Coarse: Mix it with your drilling fluid and wait.
Pump the pill down the rods and wait.

Clay Inhibitor

DD-955
Torqueless: 0.5-2 L
Swelling Clays: 0.25-1 L
Add anytime.

Fluid Thinner and Dispersant

DD-605
Mix a pill of 0.5-1 L per 1,000 L of water.
Pump pill down the rods to problem area
and let sit for approximately 15 minutes.
Then continue recirculating.

All-in-One Pail Solution DSPA

DD-Xpress	Sand-Xpress
DD-Xpress: 3 L	Sand-Xpress: 3 L
Viscosity: 42-45 sec.	Viscosity: 42-45 sec.
Add more if required.	Add more if required.

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* Dosages are formulated for a 1,000 L water tank.
** For optimum performance, pH of water should be 8-10 before introducing drilling fluids.
*** Always pre-mix Torqueless with dry polymers and add to a tank half full of water.
**** Always mix liquid polymers with water prior to the introduction of Torqueless.
***** Mix for at least 12 minutes.

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Polymer Selection Chart

OVERBURDEN	UNCONSOLIDATED	FRACTURED	BEDROCK	UNDERGROUND
Shale Gravel Sand		Voids Caves	Consolidated Ground	
Core Recovery Issues			Hard Rock	

TORQUELESS

SAND DRILL
SAND-XPRESS

CORE WRAP

DD-2000
DD-XPRESS

DD-XPAND

ULTRAVIS

DD-955

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