



Wet Batch vs. Dry Batch

Using the SIMEM Moby Mix 1500

1 QUALITY

Wet batch ensures a uniform mix, leading to consistent compressive strength and fewer defects.

2 SPEED

Faster construction timelines through efficient mixing and placement processes.

3 EFFICIENCY

Reduced risk of variability and rework, improving overall project reliability.

HIGH-SHEAR MIXING TECHNOLOGY

Built for TxDOT performance.

The Moby Mix 1500's high-shear mixer rapidly and uniformly disperses materials — breaking down particles for a smoother, more homogeneous mix. The result: improved workability, plus stronger and more durable concrete that meets TxDOT standards.

AT A GLANCE

WET BATCH — MOBY MIX 1500

- ✓ Uniform mix at the plant
- ✓ Consistent compressive strength
- ✓ Less variability, less rework
- ✓ High-shear technology
- ✓ Meets TxDOT performance specs

DRY BATCH

- Mix completed in transit
- More variability between loads
- Higher rework risk
- No on-site high-shear action
- Quality depends on haul time

**The Moby Mix 1500 wet batch + high-shear mixing
= the ideal solution for performance and durability.**



The Mixing Advantage

Why high-shear planetary mixing delivers stronger, more consistent TxDOT-spec concrete
— and what truck mixers leave on the table.

Mixing is the single most under-valued step in concrete production. Every TxDOT specification — pavement durability, bridge-deck performance, structural strength — depends on how completely the cement, aggregates, supplementary cementitious materials, and admixtures come together in the mixer. For Aussieblock, high-shear planetary mixing is the technology decision that lets us hit TxDOT Class A through Class P specs at less cement, tighter slump, and faster cycle than legacy truck-mixed batches.

30–60s

BATCH CYCLE

vs. multi-minute drum cycles

8–10%

LESS CEMENT

at TxDOT design strength

100%

SCM DISPERSION

fly ash & slag, every batch

0

DEAD ZONES

full cross-section shear

Why This Matters Now

TxDOT projects are tightening every year: higher performance specs on bridge decks, longer pavement design life, stricter QA/QC documentation, and the same pressure on cement and admixture costs every producer faces. High-shear planetary mixing addresses all of them at once — by transferring energy more efficiently, dispersing fly ash and slag completely, and eliminating the dead zones that quietly waste material in every drum batch.

THE BOTTOM LINE

A planetary-mixed batch hits TxDOT design strength with less cement, tighter slump, and less variability — every load. Multiplied across a pavement pour or a bridge-deck schedule, that is the margin between an approved supplier and a problem supplier.



The Four Technical Differences

What forced shear means for TxDOT-spec pavement, bridge-deck, and structural concrete.

The differences below are not marginal — they are mechanical.

01 Mixing intensity and mechanism

A high-shear planetary mixer uses rotating mixing stars that orbit a central axis, forcing paddles across the entire cross-section of the pan on every revolution. The result is intense, forced shear with no dead zones. A truck mixer relies on a drum rotating at roughly 15 rpm; its internal spiral blades act as a low-energy gravity-and-lift system that knits the material together as it drops. Two fundamentally different physics — and for TxDOT pavement and structural mixes, the difference shows up directly in strength, slump, and load-to-load consistency.

02 SCM and admixture dispersion

TxDOT mixes increasingly rely on supplementary cementitious materials — Class F fly ash and slag cement — for durability and reduced permeability. SCMs are only effective when fully dispersed; in drum mixers they tend to clump or stratify. Forced shear distributes SCMs, water-reducers, retarders, and air-entraining agents on the first pass, in 30–60 seconds. Tighter slump, more consistent air content, and lower admixture demand follow naturally — exactly what TxDOT QA/QC documentation needs to look clean.

03 Strength, flexural performance, and permeability

The same forced shear that disperses SCMs also tightens the cement matrix. Studies show lower absorption (less connected porosity) and higher compressive and flexural strength out of the same mix design — the exact gains that drive TxDOT Class P pavement and Class S bridge-deck performance. Lower permeability translates directly to longer service life and reduced chloride penetration on TxDOT bridge structures.

04 Cost and material savings on TxDOT mixes

Better energy transfer plus zero dead zones means the binder works harder. Field operators testing high-shear mixers routinely report cement reductions of 8–10% at equal structural strength. Applied to TxDOT Class P pavement or Class S bridge-deck pours, that is the highest-leverage savings available without changing the approved mix design — with the embodied-carbon reduction that comes with it.



Side-by-Side

High-shear planetary mixing vs. drum truck mixing across six TxDOT-relevant factors.

Factor Comparison criterion	High-Shear Planetary Aussieblock equipment	Truck Mixer Conventional drum
Mixing mechanism	Rotating stars + orbiting paddles cover the full pan cross-section every revolution. Forced shear — no dead zones.	Drum rotates at ~15 rpm. Spiral blades knit material together as it drops by gravity.
Cycle time	30–60 seconds per batch.	Several minutes; depends on transit and slump-loss management.
SCM dispersion	Full dispersion on the first pass — drives TxDOT durability and reduced permeability.	SCMs prone to clumping or stratifying; uneven contribution to strength and durability.
Slump & air consistency	Tight load-to-load slump and air content — clean QA/QC documentation.	Wider variability; more rejected loads on TxDOT pavement spec.
Strength & flexure	Lower absorption and higher compressive/flexural strength at the same mix design.	Adequate for general mixes; under-performs on demanding TxDOT pavement and bridge specs.
Cement content	Field reports of 8–10% reductions at equal TxDOT design strength.	Baseline cement content.

Sources: FHWA concrete mixing research; ScienceDirect review on mixer type and hardened-state performance; TxDOT-aligned field reports and industry data.

When to Use Which

HIGH-SHEAR PLANETARY

TxDOT pavement (Class P). Bridge decks (Class S / K). Structural concrete (Class A / C). Drilled shafts and box culverts. Anywhere strength, durability, low permeability, and tight QC tolerances set the spec.

TRUCK MIXER

Traditional ready-mix delivery. Long-distance haul. Mass pours where placement speed outweighs in-pan mixing energy and the spec is forgiving on slump and uniformity.



The Aussieblock Position

Mixing technology is not equipment — it is TxDOT-spec compliance, every load.

We do not see high-shear planetary mixing as a piece of equipment. We see it as the production technology that lets Aussieblock compete on the TxDOT specifications that matter — compressive strength, flexural performance, low permeability, slump tolerance, and load-to-load consistency — without giving up margin on the cement and admixtures we buy by the ton.

The data is consistent across independent studies and field operators: forced-shear mixing produces better TxDOT-spec concrete from the same materials, and often the same concrete from less.

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Every batch matters. Every percent of cement, admixture, and time we save compounds across a year of TxDOT pours.

— THE AUSSIEBLOCK POSITION ON MIXING

That is why mixing technology is central to Aussieblock's TxDOT certification — and why this conversation is worth having with every TxDOT engineer, district inspector, and prime contractor we work with.

FURTHER READING

TxDOT Standard Specifications, Item 421 — Hydraulic Cement Concrete

<ftp.dot.state.tx.us>

ScienceDirect review — mixer type and hardened-state mortar/concrete performance

<sciencedirect.com>



CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY THAT

Aussieblock, LLC
Plant Mobymix 1500
SAN ANGELO, TEXAS

Has been inspected and is compliant with the requirements set forth in
ASTM C94 Standard Specification for Ready Mix Concrete



April 16, 2026

Firm No. F-24304

Signature of P.E.

Brian Barbee

April 16, 2026

Certification Date

April 16, 2028

Expiration Date

Aussieblock will maintain this facility in compliance with ASTM C94 and will correct any deficiencies that may develop during the period in which the certification is valid.



PLANT CERTIFICATION CHECKLIST

Plant No.	Moby Mix 1500
Street Address	2951 E FM 2105
City State	San Angelo, Texas 76905
Contact	Brian Barbee
Phone	325-249-4300

Engineer Information

Name	Ron Terrelonge, PE		
Address	11161 E State Rd 70, Unit 110-858, Lakewood Ranch, FL 34202		
Phone	202-509-4824	Email: rterrelonge@concreteplantinspections.com	
Registration No.	97530	State	TEXAS
	Firm No. F-24304		

Signature

April 16, 2026

Date



Fleet Compliance Checklist

[illegible]

P=Pass, F=Fail

Aussieblock will maintain the fleet in compliance with NRMCA and will correct any deficiencies that may develop during the period in which the certification is valid.

Truck Inspector: Brian Barbee
Plant: Mobymix 1500 San Angelo, TX

April 16, 2026



Review and approved by Ron Terrelonge 4/16/26

Firm No. F-24304



Moby Mix 1500 + SUN 1501

Mobile Wet-Batch Plant with High-Shear Planetary Mixer



MOBY MIX 1500 — Mobile Batching Plant	
PLANT SPECIFICATIONS	
Hourly rated capacity	60–80 yd ³ /h
Capacity per batch	1.3 yd ³
Aggregate bins	4
Aggregate storage	46–78 yd ³
Cement silos	Up to 4
Discharge height	13.8 ft
Control system	dornerBatch
Mobility	Self-unloading / erecting

SUN 1501 — Planetary Mixer	
MIXER SPECIFICATIONS	
Dry filling capacity	53 ft ³
Output capacity	1.3 yd ³
Main mixing stars	2
Paddles per star	2
Side scrapers	2
Drive motor	50 hp
Discharge outlets	Up to 4
Mixer weight	11,000 lb

KEY FEATURES

PLANETARY MIXING

Two central stars rotating with peripheral scrapers — uniform mix in minimum time.

NI-HARD COMPONENTS

Anti-wear interior panels and Ni-Hard cast-iron paddles. Steel inspection gates.

dornerBATCH CONTROL

Self-learning batching from Dorner Electronic. Precise dosing, full traceability.

ON-SITE WASH SYSTEM

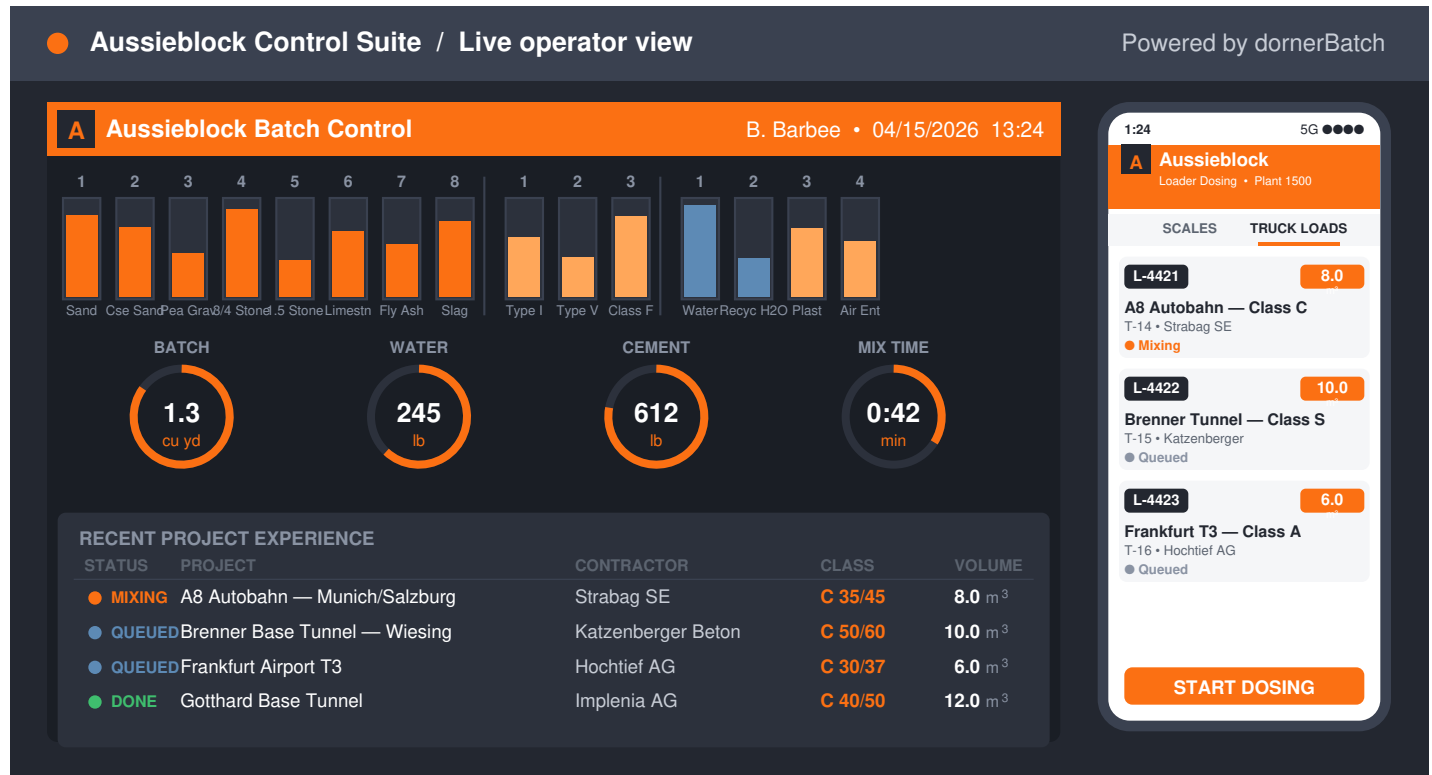
SUPERWASH automatic washing system — installed

2 × 15 hp pumps • 16 gal/min flow • 2,900 psi pressure • Touch-screen control



Aussieblock Control Suite

Plant control + mobile loader dosing • Built on dornerBatch



FOUR CORE CAPABILITIES

01 INTUITIVE

Put first things first. User-friendly touch interface that enables operator flexibility.

02 PRECISE

Accurate dosing via self-learning system — ensures concrete quality in a dynamic environment.

03 EFFICIENT

Maximizes plant performance. Conserves materials and saves costs through optimized production.

04 INNOVATIVE

Future-proof modular technology with regular updates and new features.

PROVEN ON WORLD-CLASS PROJECTS → READY FOR TxDOT

Documented batch accuracy, repeatable recipes, and full traceability — every load.

dornerBatch logs every dose, mix cycle, and discharge — the same system trusted on the Brenner Base Tunnel, the A8 Autobahn, Frankfurt Airport, and the Gotthard Tunnel. Configured to meet TxDOT documentation requirements automatically.